



United States
Department of
Agriculture



Natural Resources
Conservation
Service

Oregon Basin Outlook Report

May 1, 2011



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General Outlook

May 1, 2011

SUMMARY

Water users in Oregon can find some comfort in the cold and wet spring they have been experiencing. The cool spring conditions that began in mid March continued into April bringing valley rain and mountain snow. While some snow measurement sites have begun to melt, others continued to build snowpack during April. Streamflows, reservoirs, and the mountain snowpack have benefitted from these conditions.

Runoff from the large snowpacks could pose problems downstream if temperatures were to warm up rapidly. However, below normal temperatures are forecast throughout the region for the first half of May and it is expected that snow melt and spring runoff will be delayed or at least slowed.

As of May 1, all water supply forecasts points in Oregon are projected to have well above normal flows for the summer low flow period.

SNOWPACK

All basins in the state reported well above average snowpacks on May 1. During April, some sites gained snowpack while other sites began a slow melt out. Snowpack gain or melt was a function of aspect and elevation as the sun angle increased and days lengthened. New records were set on May 1 for high snow water content at 4 SNOTEL sites in the Wallowa and Elkhorn Mountains of northeast Oregon.

On May 1, the snowpack in Oregon ranged from 149 percent of average in the Upper Deschutes and Crooked basin to 220 percent of average in the Upper John Day basin.

PRECIPITATION

April continued to be colder and wetter than normal following a stormy and wet March. All basins in the state reported a wetter than normal April. Precipitation totals for the month ranged from 132 percent of average for the Burnt, Powder, Pine, Grande Ronde, and Imnaha basins to 200 percent of average for Lake County.

Precipitation during the months of March and April has more than made up for the very dry conditions experienced during January and February this year. Since the beginning of the water year, precipitation totals range from 110 percent of average for the Klamath basin to 135 percent of average for the Owyhee and Malheur.

RESERVOIRS

The storms of April resulted in high stream flows and improved reservoir storage throughout the state. Nearly all the reservoirs in the state gained storage during April, with some reservoirs reaching or nearing capacity. Other reservoirs are saving room for the remaining snowmelt.

The May 1 storage at 26 major irrigation reservoirs analyzed in this publication was 102 percent of average. A total of 2,677,700 acre feet of water were stored on May 1, representing 83 percent of useable capacity. Last year at this time, these same reservoirs stored 1,850,800 acre feet of water.

STREAMFLOW

April streamflows were well above average throughout the state due to the wet April weather and the onset of snow melt. In some cases, the April flows approached the total volume forecast for the entire April through September period.

Streamflow forecasts for the May through September period have risen due to the continued cool, wet conditions and the persistence of snow in the mountains. All water users in the state of Oregon are expected to have well above average streamflows to draw from this coming summer. Summer low flows are projected to be delayed until later than normal. In light of the remaining snow in the mountains, water users in low lying areas may want to pay particular attention to weather patterns governing melt rates in anticipation of high runoff. Water users may want to prepare for the greater range of probable streamflow volumes given in the following streamflow forecast tables.

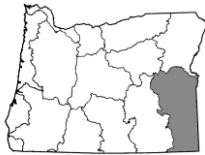
A summary of streamflow forecasts for Oregon follows:

| STREAM | PERIOD | PERCENT OF AVERAGE |
|-----------------------------|----------|--------------------------|
| Owyhee Reservoir Inflow | Apr-Sep | 149 |
| Grande Ronde R at La Grande | Apr-Sep | 113 |
| Umatilla R at Pendleton | Apr-Sep | 123 |
| Deschutes R at Benham Falls | Apr-Sep | 106 |
| MF Willamette R bl NF | Apr-Sep | 133 |
| Rogue R at Raygold | Apr-Sep | 126 |
| Upper Klamath Lake Inflow | Apr-Sep | 132 |
| Silvies R nr Burns | Apr-Sept | 219 |

Some of these forecasts assume that normal weather conditions will occur from now to the end of the forecast period.

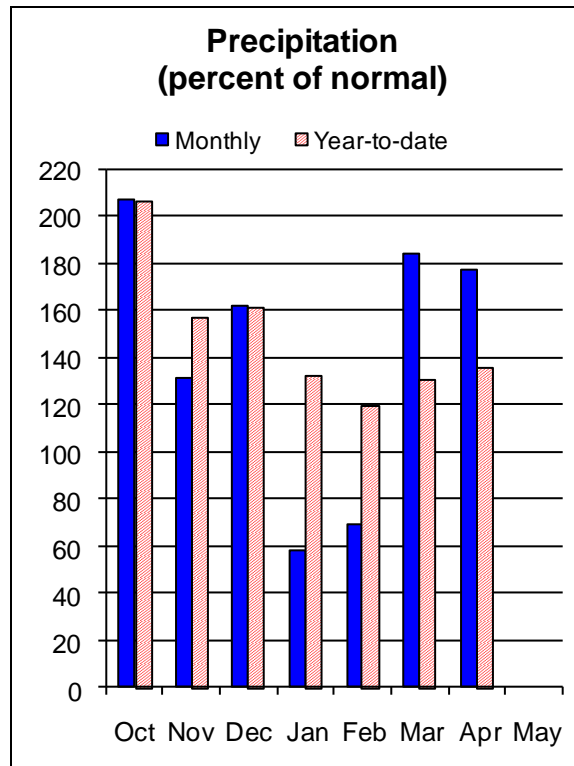
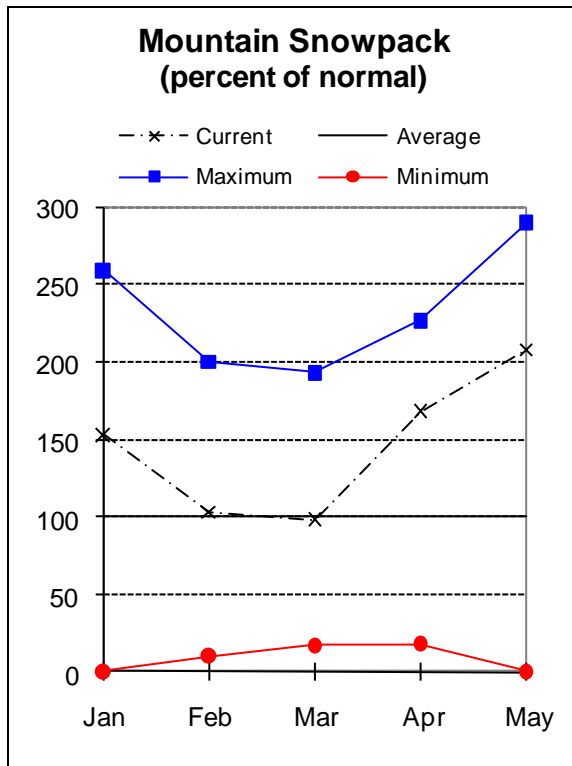
The forecasts in this bulletin are a result of coordinated activity between the Natural Resources Conservation Service and the National Weather Service as an effort to provide the best possible service to water users.

This report contains data furnished by the Oregon Department of Water Resources, U.S. Geological Survey, NOAA National Weather Service and other cooperators. This report will be updated monthly, January through June.



Owyhee and Malheur Basins

May 1, 2011



Water Supply Outlook

It was another wet month in the Owyhee and Malheur basin. Precipitation for the month of April was 177 percent of normal. Since the beginning of the water year, precipitation in the basin has been 135 percent of average, the highest in the state.

The snowpack grew in the upper elevations of the Owyhee and began to melt out in the lower elevations and the Malheur. The Malheur snowpack appears comparable to that experienced in 2008, with melt out projected to be much later than normal. The May 1 snowpack as measured at 10 SNOTEL sites in the Owyhee and Malheur was 208 percent of average.

During April, reservoirs in the basin captured some runoff and let the rest pass in anticipation of the snowmelt yet to come. May 1 storage at the 4 irrigation reservoirs in the basin was 107 percent of average or 91 percent of capacity.

The May through September streamflow forecasts range from 144 percent of average for the North Fork Malheur at Beulah to 154 percent of average for the Malheur River at Drewsey. Elsewhere in the basin the Owyhee River near Rome is forecast to be 152 percent of average for the same period. With the amount of snow remaining in the mountains, water users may want to prepare for the greater range of probable streamflow volumes given in the attached streamflow forecast tables.

For more information contact your local Natural Resources Conservation Service Office:

Ontario - (541) 889-7637

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

OWYHEE AND MALHEUR BASINS
Streamflow Forecasts - May 1, 2011

| | | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | |
|----------------------------|-----------------|--|----------|----------|----------|----------|----------|------------------------|
| Forecast Point | Forecast Period | Chance Of Exceeding * | | | | | | 30-Yr Avg. (1000AF) |
| | | 90% | 70% | 50% | | 30% | 10% | |
| | | (1000AF) | (1000AF) | (1000AF) | (% AVG.) | (1000AF) | (1000AF) | |
| Malheur R nr Drewsey | MAY-JUL | 38 | 47 | 54 | 154 | 62 | 73 | 35 |
| | MAY-SEP | 40 | 50 | 57 | 154 | 65 | 77 | 37 |
| NF Malheur R at Beulah (2) | MAY-JUL | 40 | 47 | 53 | 143 | 59 | 68 | 37 |
| | MAY-SEP | 48 | 56 | 62 | 144 | 68 | 78 | 43 |
| Owyhee R bl Owyhee Dam (2) | MAY-JUL | 230 | 290 | 335 | 149 | 385 | 460 | 225 |
| | MAY-SEP | 265 | 330 | 380 | 149 | 430 | 515 | 255 |
| Owyhee R nr Rome | MAY-JUL | 220 | 280 | 320 | 152 | 360 | 420 | 210 |
| | MAY-SEP | 245 | 310 | 350 | 152 | 390 | 455 | 230 |

OWYHEE AND MALHEUR BASINS
Reservoir Storage (1000 AF) - End of April

OWYHEE AND MALHEUR BASINS
Watershed Snowpack Analysis - May 1, 2011

| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
|-------------|-----------------|------------------------|-----------|-------|---------------|----------------------|-------------------|---------|
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| BEULAH RES | 60.0 | 53.3 | 48.9 | 51.2 | Owyhee | 7 | 248 | 207 |
| BULLY CREEK | 30.0 | 23.6 | 23.8 | 25.6 | Upper Malheur | 3 | 418 | 211 |
| OWYHEE | 715.0 | 666.1 | 371.2 | 613.6 | Jordan Creek | 2 | 275 | 243 |
| WARMSPRINGS | 191.0 | 159.1 | 78.8 | 149.9 | Bully Creek | 0 | 0 | 0 |
| | | | | | Willow Creek | 0 | 0 | 0 |

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

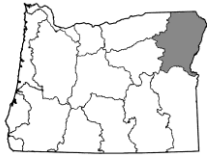
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural volume - actual volume may be affected by upstream water management.

For more information contact your local Natural Resources Conservation Service Office:

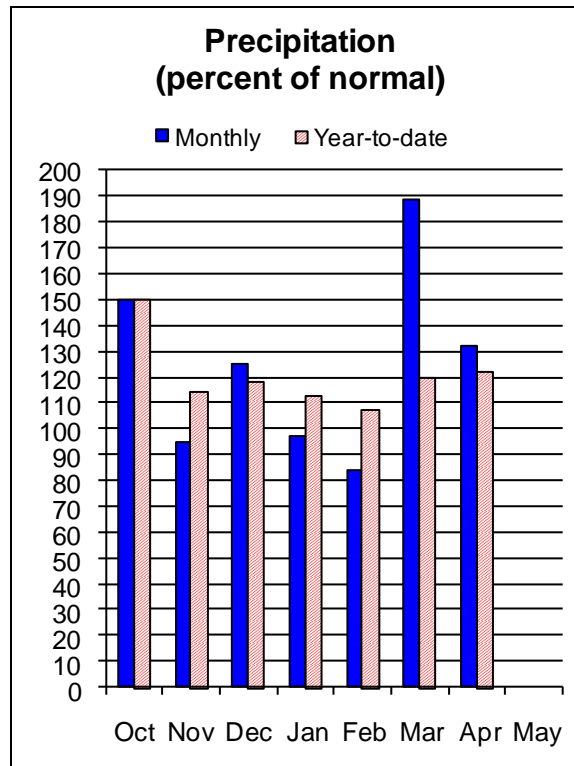
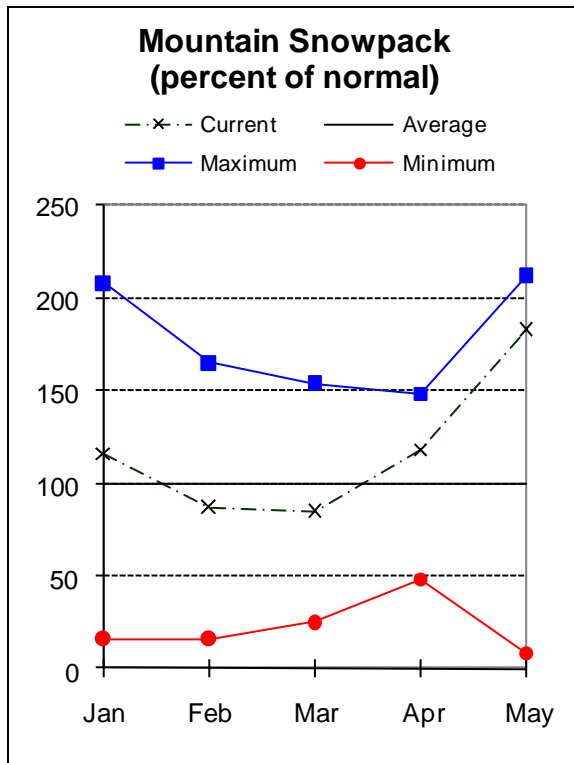
Ontario - (541) 889-7637

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>



Burnt, Powder, Grand Ronde, and Imnaha Basins

May 1, 2011



Water Supply Outlook

March and April weather conditions brought an improvement to water supply conditions in the Burnt, Powder, Pine, Grande Ronde and Imnaha basins. Wet and cold weather patterns have increased streamflows and delayed snowmelt. April precipitation was 132 percent of average, the highest in the state. Since the beginning of the water year, precipitation in the basin has been 122 percent of average.

New records were set on May 1 for high snow water content at 4 SNOTEL sites in the Wallowa and Elkhorn Mountains. Many other sites were recording well above average snow water. The May 1 snowpack as measured at 15 SNOTEL sites and 2 snow courses was 183 percent of average. Reservoir storage changed little during April as reservoirs spilled April runoff in order to reserve room for future snowmelt. May 1 storage at Phillips Lake, Thief Valley and Unity reservoirs was 94 percent of average or 83 percent of capacity.

The May through September streamflow forecasts range from 113 percent of average for the Grande Ronde at La Grande to 168 percent of average for the Burnt near Hereford. Elsewhere in the basin, the Imnaha at Imnaha is forecast to be 135 percent of average for the same period. With the amount of snow remaining in the mountains, water users may want to prepare for the greater range of probable streamflow volumes given in the attached streamflow forecast tables.

For more information contact your local Natural Resources Conservation Service Office:
Enterprise- (541) 426-4588; Baker City - (541) 523-7121; LaGrande - (541) 963-4178
Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

BURNT, POWDER, PINE, GRANDE RONDE AND IMNAHA BASINS
Streamflow Forecasts - May 1, 2011

| Forecast Point | Forecast Period | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | 30-Yr Avg. (1000AF) |
|------------------------------|--------------------|--|-----------------|-----------------|----------|-----------------|-----------------|------------------------|
| | | Chance Of Exceeding * | | | | | | |
| | | 90% (1000AF) | 70% (1000AF) | 50% (1000AF) | (% AVG.) | 30% (1000AF) | 10% (1000AF) | |
| ===== | | | | | | | | |
| Bear Ck nr Wallowa | MAY-SEP | 58 | 63 | 67 | 120 | 71 | 76 | 56 |
| Burnt nr Hereford (2) | MAY-JUL | 23 | 27 | 29 | 168 | 31 | 35 | 17.3 |
| | MAY-SEP | 26 | 29 | 32 | 168 | 35 | 38 | 19.1 |
| Catherine Ck nr Union | MAY-JUL | 62 | 68 | 72 | 147 | 76 | 82 | 49 |
| | MAY-SEP | 68 | 74 | 78 | 147 | 82 | 88 | 53 |
| Deer Ck nr Sumpster | MAY-JUL | 13.7 | 15.6 | 16.8 | 160 | 18.0 | 19.9 | 10.5 |
| Grande Ronde R at La Grande | MAY-JUL | 81 | 104 | 120 | 113 | 136 | 159 | 106 |
| | MAY-SEP | 85 | 110 | 127 | 113 | 144 | 169 | 112 |
| Grande Ronde R at Troy (1) | MAY-JUL | 830 | 1040 | 1140 | 125 | 1240 | 1450 | 910 |
| | MAY-SEP | 945 | 1160 | 1260 | 125 | 1360 | 1570 | 1010 |
| Imnaha R at Imnaha | MAY-JUL | 240 | 270 | 290 | 135 | 310 | 340 | 215 |
| | MAY-SEP | 270 | 305 | 325 | 135 | 345 | 380 | 240 |
| Lostine R nr Lostine | MAY-JUL | 114 | 121 | 125 | 121 | 129 | 136 | 103 |
| | MAY-SEP | 124 | 131 | 136 | 121 | 141 | 148 | 112 |
| Pine Ck nr Oxbow | MAY-JUL | 132 | 149 | 160 | 148 | 171 | 188 | 108 |
| | MAY-SEP | 140 | 157 | 168 | 147 | 179 | 196 | 114 |
| Powder R nr Sumpster | MAY-JUL | 54 | 61 | 66 | 161 | 71 | 78 | 41 |
| | MAY-SEP | 55 | 62 | 67 | 160 | 72 | 79 | 42 |
| Wolf Ck Reservoir Inflow (2) | MAY-JUN | 11.9 | 14.5 | 16.3 | 158 | 18.1 | 21 | 10.3 |

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table. The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural volume - actual volume may be affected by upstream water management.

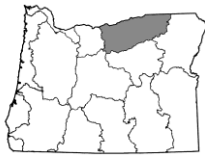
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Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

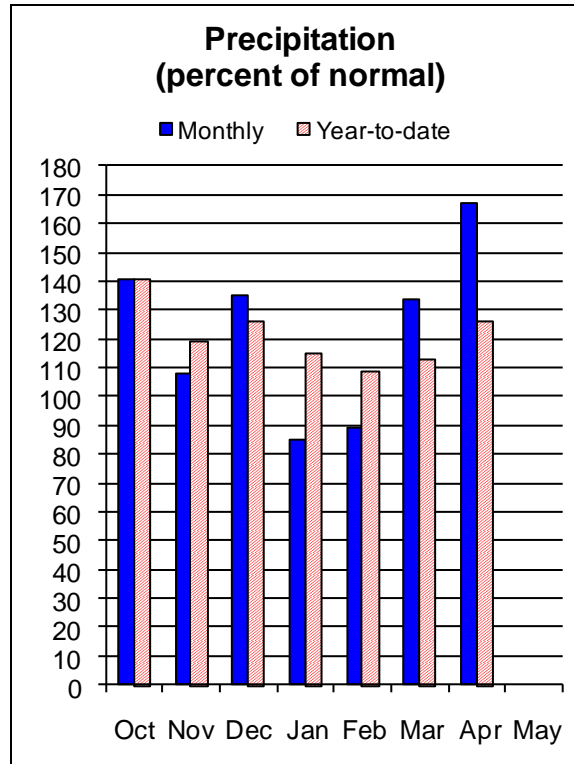
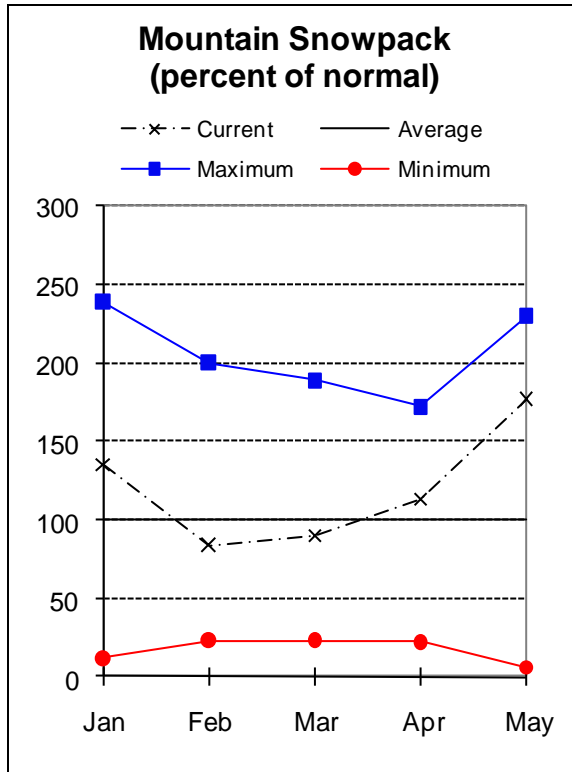
| BURNT, POWDER, PINE, GRANDE RONDE AND IMNAHA BASINS Reservoir Storage (1000 AF) - End of April | | | | | BURNT, POWDER, PINE, GRANDE RONDE AND IMNAHA BASINS Watershed Snowpack Analysis - May 1, 2011 | | | |
|---|--------------------|-------------------------------------|-----------|------|--|----------------------------|------------------------------|-----------------|
| Reservoir | Usable Capacity | *** Usable Storage *** This Year | Last Year | Avg | Watershed | Number of Data Sites | This Year as % of Last Yr | % of Average |
| PHILLIPS LAKE | 73.5 | 59.7 | 54.0 | 59.9 | Upper Grande Ronde | 9 | 274 | 217 |
| THIEF VALLEY | 17.4 | 14.0 | 13.7 | 17.5 | Wallowa | 4 | 167 | 146 |
| UNITY | 25.2 | 22.3 | 23.5 | 24.3 | Imnaha | 3 | 150 | 126 |
| WALLOWA LAKE | 37.5 | 19.0 | 16.9 | 22.6 | Powder | 7 | 282 | 244 |
| WOLF CREEK | 10.4 | 10.3 | 10.0 | 9.4 | Burnt | 2 | 677 | 350 |

For more information contact your local Natural Resources Conservation Service Office:
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Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>



Umatilla, Walla Walla, Willow Rock, and Lower John Day Basins

May 1, 2011



Water Supply Outlook

March and April weather conditions brought an improvement to water supply conditions in the basins. Wet and cold weather patterns have increased streamflows and delayed snowmelt. April precipitation was 167 of average in the basin. Since the beginning of the water year, basin wide precipitation has been 126 percent of average.

The snowpack will be melting out later than normal in the basin this year. Emigrant Springs SNOTEL site was the only site to have melted out by May 1. The May 1 snowpack as measured at 7 SNOTEL sites and 2 snow courses was 177 percent of average. Reservoir storage changed little during April as reservoirs spilled April runoff in order to reserve room for future snowmelt. May 1 storage at Cold Springs and McKay reservoirs was 96 percent of average or 81 percent of capacity.

With lots of snow remaining in the mountains, forecasts at some points in the basins have increased notably since last month's Outlook Report. The May through September streamflow forecasts range from 106 percent of average for the South Fork Walla Walla near Milton Freewater to 202 percent of average for McKay Creek near Pilot Rock. Elsewhere in the basin, the Umatilla at Pendleton is forecast to be 123 percent of average for the same period. Water users in the basin are expected to have average or above average flows this coming summer.

For more information contact your local Natural Resources Conservation Service Office:
 Pendleton - (541) 278-8049; Heppner - (541) 676-5021; Condon - (541) 384-2671
 Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

UMATILLA, WALLA WALLA, WILLOW, ROCK AND LOWER JOHN DAY BASINS
Streamflow Forecasts - May 1, 2011

| Forecast Point | Forecast Period | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | | |
|--------------------------------------|-----------------|--|-----------------|-----------------|----------|-----------------|-----------------|------------------------|--|
| | | ===== Chance Of Exceeding * ===== | | | | | | | |
| | | 90% (1000AF) | 70% (1000AF) | 50% (1000AF) | (% AVG.) | 30% (1000AF) | 10% (1000AF) | 30-Yr Avg. (1000AF) | |
| Butter Ck nr Pine City | MAY-JUL | 4.8 | 6.8 | 8.1 | 172 | 9.4 | 11.4 | 4.7 | |
| | MAY-SEP | 5.7 | 7.7 | 9.0 | 173 | 10.3 | 12.3 | 5.2 | |
| McKay Ck nr Pilot Rock | MAY-SEP | 13.2 | 20 | 25 | 202 | 30 | 37 | 12.4 | |
| Rhea Ck nr Heppner | MAY-JUL | 4.4 | 6.2 | 7.4 | 218 | 8.6 | 10.4 | 3.4 | |
| Umatilla R ab Meacham Ck nr Gibbon | MAY-JUL | 32 | 42 | 49 | 117 | 56 | 66 | 42 | |
| | MAY-SEP | 39 | 49 | 56 | 117 | 63 | 73 | 48 | |
| Umatilla R at Pendleton | MAY-JUL | 53 | 78 | 96 | 123 | 114 | 139 | 78 | |
| | MAY-SEP | 59 | 85 | 103 | 123 | 121 | 147 | 84 | |
| SF Walla Walla R nr Milton-Freewater | MAY-JUL | 31 | 37 | 40 | 105 | 43 | 49 | 38 | |
| | MAY-SEP | 44 | 50 | 54 | 106 | 58 | 64 | 51 | |
| Willow Ck ab Willow Ck Lake nr Heppn | MAY-JUL | 4.0 | 5.8 | 6.9 | 157 | 8.0 | 9.8 | 4.4 | |

| UMATILLA, WALLA WALLA, WILLOW, ROCK AND LOWER JOHN DAY BASINS | | | | | UMATILLA, WALLA WALLA, WILLOW, ROCK AND LOWER JOHN DAY BASINS | | | |
|---|-----------------|------------------------------|---------------|---------|---|----------------------|---------------------------|--------------|
| Reservoir Storage (1000 AF) - End of April | | | | | Watershed Snowpack Analysis - May 1, 2011 | | | |
| Reservoir | Usable Capacity | *** Usable Storage This Year | *** Last Year | *** Avg | Watershed | Number of Data Sites | This Year as % of Last Yr | % of Average |
| COLD SPRINGS | 50.0 | 35.2 | 21.3 | 42.7 | Walla Walla | 3 | 278 | 177 |
| MCKAY | 73.8 | 64.6 | 35.8 | 61.6 | Umatilla | 7 | 284 | 199 |
| WILLOW CREEK | 1.8 | 1.7 | 0.4 | --- | McKay Creek | 4 | 0 | 298 |

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural volume - actual volume may be affected by upstream water management.

For more information contact your local Natural Resources Conservation Service Office:

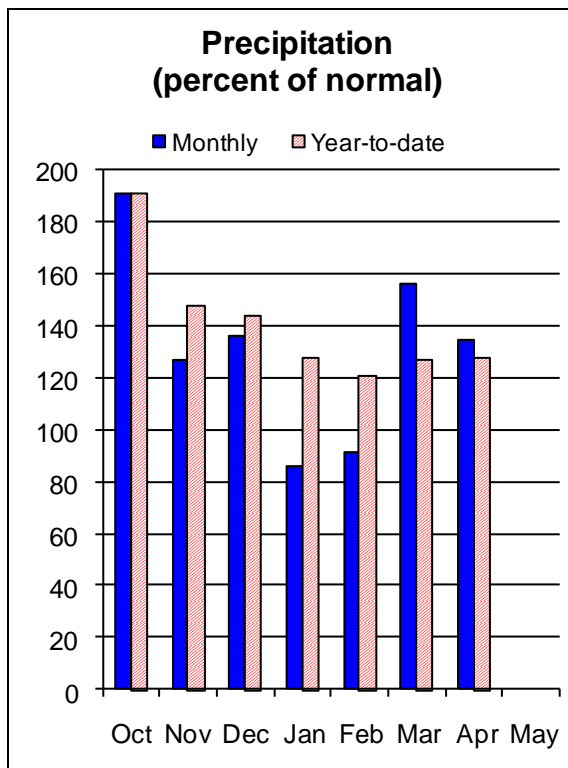
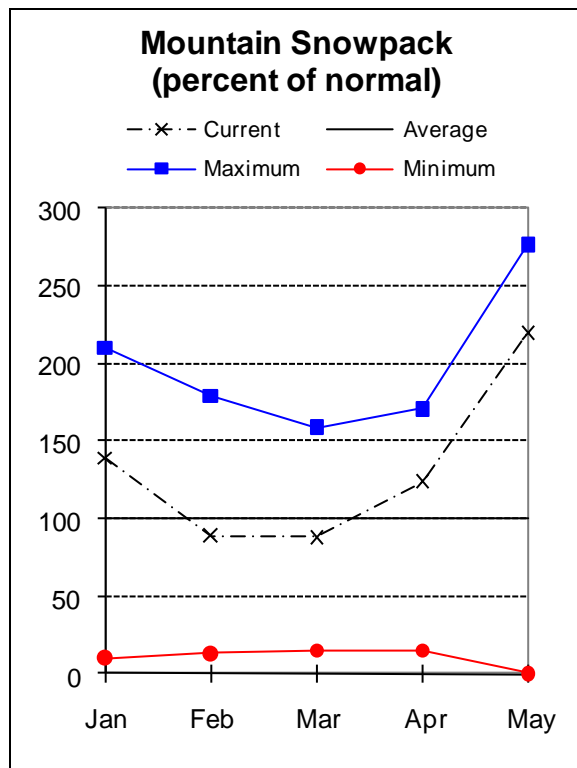
Pendleton - (541) 278-8049; Heppner - (541) 676-5021; Condon - (541) 384-2671

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>



Upper John Day Basin

May 1, 2011



Water Supply Outlook

The Upper John Day basin recorded the most abundant May 1 snowpack of all the basins in Oregon this year. Two SNOTEL sites in the basin recorded increases in the snowpack during April while the rest began to slowly melt out. The May 1 snowpack as measured at 13 SNOTEL sites in the Upper John Day basin was a robust 220 percent of average. The May 2011 snowpack is similar to May 2008 conditions in the Upper John Day.

A wet and cold April brought valley rain, mountain snow and increased streamflows to the Upper John Day. April precipitation was 135 percent of average. Since the beginning of the water year, precipitation in the Upper John Day has been 128 percent of average.

With an abundant snowpack, forecasts at all points in the basin have increased notably since last month's Outlook Report. The May through September streamflow forecasts range from 120 percent of average for Camas Creek near Ukiah to 174 percent of average for Mountain Creek near Mitchell. Elsewhere in the basin the North Fork John Day at Monument is forecast to be 141 percent of average for the same period.

For more information contact your local Natural Resources Conservation Service Office:
 John Day - (541) 575-0135

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

UPPER JOHN DAY BASIN
Streamflow Forecasts - May 1, 2011

| Forecast Point | Forecast Period | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | | |
|-------------------------------|-----------------|--|-----------------|-----------------|----------|-----------------|-----------------|------------------------|--|
| | | Chance Of Exceeding * | | | | | | | |
| | | 90% (1000AF) | 70% (1000AF) | 50% (1000AF) | (% AVG.) | 30% (1000AF) | 10% (1000AF) | 30-Yr Avg. (1000AF) | |
| Camas Ck nr Ukiah | MAY-JUL | 12.6 | 18.2 | 22 | 120 | 26 | 31 | 18.4 | |
| | MAY-SEP | 13.5 | 19.2 | 23 | 120 | 27 | 33 | 19.2 | |
| MF John Day R at Ritter | MAY-JUL | 82 | 101 | 113 | 145 | 125 | 144 | 78 | |
| | MAY-SEP | 88 | 107 | 120 | 145 | 133 | 152 | 83 | |
| NF John Day R at Monument | MAY-JUL | 385 | 470 | 530 | 141 | 590 | 675 | 375 | |
| | MAY-SEP | 405 | 490 | 550 | 141 | 610 | 695 | 390 | |
| Mountain Ck nr Mitchell | MAY-JUL | 3.4 | 4.2 | 4.7 | 174 | 5.2 | 6.0 | 2.7 | |
| | MAY-SEP | 3.3 | 4.2 | 4.7 | 174 | 5.2 | 6.1 | 2.7 | |
| Strawberry Ck nr Prairie City | MAY-JUL | 8.0 | 9.2 | 10.0 | 152 | 10.8 | 12.0 | 6.6 | |
| | MAY-SEP | 9.0 | 10.3 | 11.1 | 152 | 11.9 | 13.2 | 7.3 | |

UPPER JOHN DAY BASIN
Reservoir Storage (1000 AF) - End of April

UPPER JOHN DAY BASIN
Watershed Snowpack Analysis - May 1, 2011

| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
|-----------|-----------------|------------------------|-----------|-----|-------------------------|----------------------|-------------------|---------|
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| | | | | | North Fork John Day | 7 | 375 | 206 |
| | | | | | John Day above Kimberly | 5 | 328 | 217 |

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

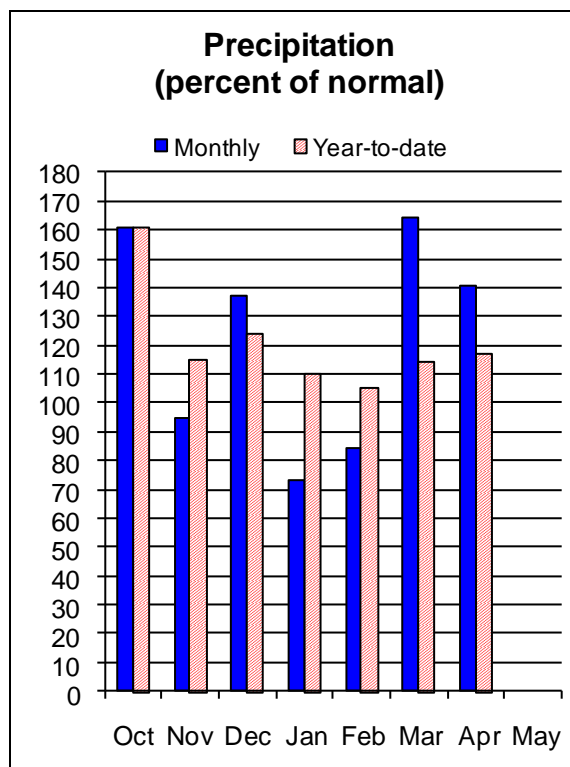
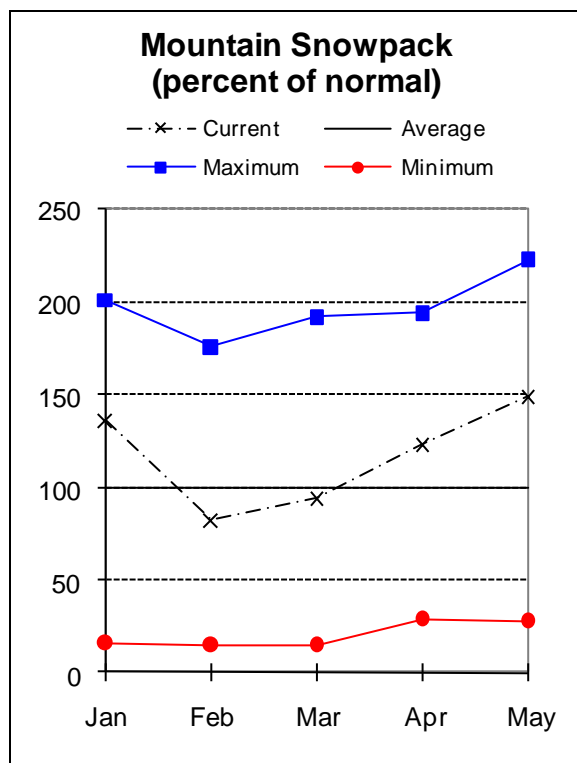
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

For more information contact your local Natural Resources Conservation Service Office:
John Day - (541) 575-0135
Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>



Upper Deschutes and Crooked Basins

May 1, 2011



Water Supply Outlook

Wet and cold weather conditions in March and April have increased streamflows and delayed snowmelt in the Upper Deschutes and Crooked River basins. On May 1 the snowpack was a robust 149 percent of average. Even so, the Upper Deschutes and Crooked River basins reported the lowest basin snowpack average in the state on May 1. Snowpack measurements were collected at 2 snow courses and 14 SNOTEL sites for the May 1 survey.

April precipitation was 141 percent of average. Since the beginning of the water year, precipitation in the Upper Deschutes and Crooked River basin has been 117 of average. Reservoir storage changed little during April as reservoirs spilled April runoff in order to reserve room for future snowmelt. May 1 storage at 5 irrigation reservoirs in the Upper Deschutes and Crooked River basin was 108 percent of average or 93 percent of capacity.

Ochoco and Prineville Reservoir Inflow have had a notable increase in their summer streamflow forecasts since the April Outlook Report. The May through September streamflow forecasts in the Upper Deschutes and Crooked basin range from 106 percent of average for Deschutes River at Benham Falls near Bend to 187 percent of average for Prineville Reservoir Inflow. Elsewhere in the basin, Crane Prairie Reservoir Inflow is forecast to be 131 percent of average for the same period.

For more information contact your local Natural Resources Conservation Service Office:
Redmond (541) 923-4358

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

UPPER DESCHUTES AND CROOKED BASINS
Streamflow Forecasts - May 1, 2011

| | | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | |
|-------------------------------------|-----------------|--|-----------------|-----------------|----------|-----------------|-----------------|------------------------|
| Forecast Point | Forecast Period | Chance Of Exceeding * | | | | | | 30-Yr Avg. (1000AF) |
| | | 90% (1000AF) | 70% (1000AF) | 50% (1000AF) | (% AVG.) | 30% (1000AF) | 10% (1000AF) | |
| ===== | | | | | | | | |
| Crane Prairie Reservoir Inflow (2) | MAY-JUL | 53 | 60 | 64 | 131 | 68 | 75 | 49 |
| | MAY-SEP | 94 | 103 | 109 | 131 | 115 | 124 | 83 |
| Crescent Ck nr Crescent (2) | MAY-JUL | 13.7 | 16.9 | 19.0 | 135 | 21 | 24 | 14.1 |
| | MAY-SEP | 18.7 | 22 | 24 | 135 | 26 | 29 | 17.8 |
| Deschutes R at Benham Falls nr Bend | MAY-JUL | 260 | 275 | 285 | 106 | 295 | 310 | 270 |
| | MAY-SEP | 435 | 455 | 470 | 106 | 485 | 505 | 445 |
| Deschutes R bl Snow Ck nr La Pine | MAY-JUL | 23 | 28 | 31 | 115 | 34 | 39 | 27 |
| | MAY-SEP | 50 | 57 | 61 | 115 | 65 | 72 | 53 |
| Little Deschutes R nr La Pine (2) | MAY-JUL | 57 | 64 | 69 | 133 | 74 | 81 | 52 |
| | MAY-SEP | 67 | 75 | 81 | 133 | 87 | 95 | 61 |
| Ochoco Reservoir Inflow (2) | MAY-JUL | 10.2 | 15.1 | 18.4 | 179 | 22 | 27 | 10.3 |
| | MAY-SEP | 9.8 | 14.9 | 18.4 | 179 | 22 | 27 | 10.3 |
| Prineville Reservoir Inflow (2) | MAY-JUL | 57 | 72 | 82 | 186 | 92 | 107 | 44 |
| | MAY-SEP | 58 | 74 | 84 | 187 | 94 | 110 | 45 |
| Whychus Ck nr Sisters | MAY-JUL | 32 | 35 | 36 | 113 | 37 | 40 | 32 |
| | MAY-SEP | 45 | 47 | 49 | 111 | 51 | 53 | 44 |

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

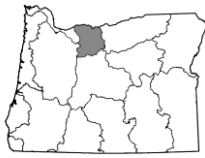
The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

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Redmond (541) 923-4358
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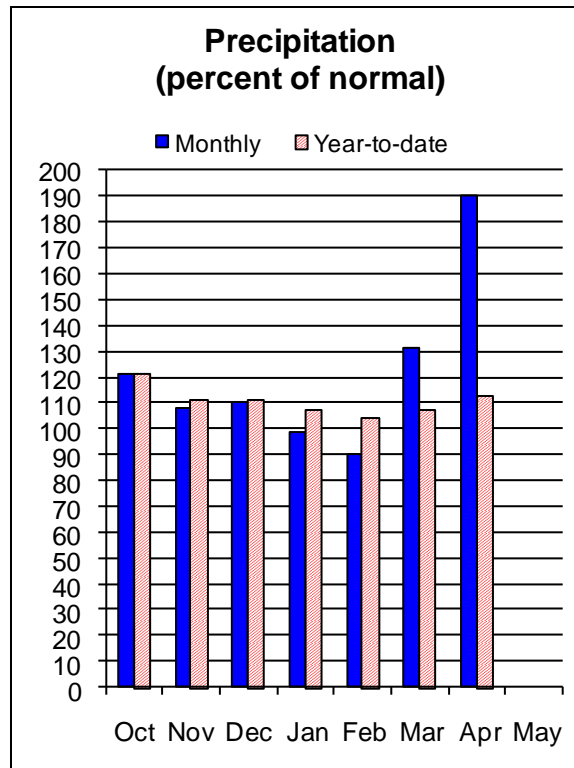
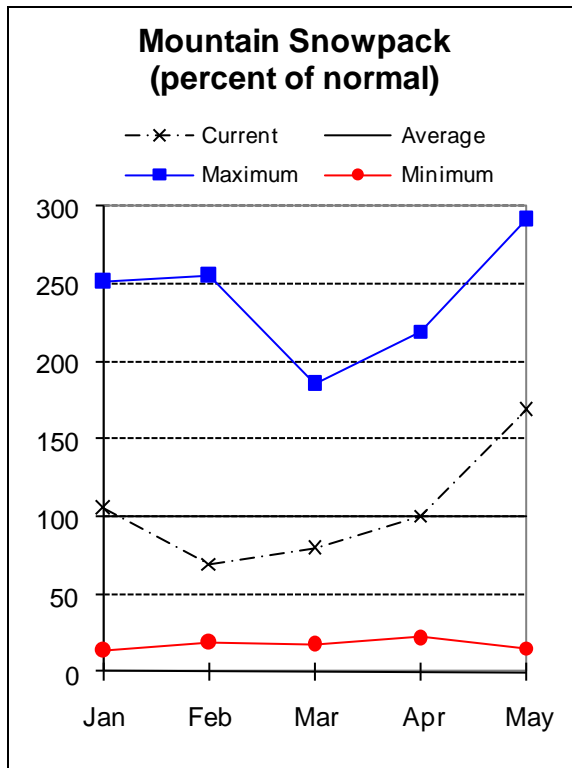
| UPPER DESCHUTES AND CROOKED BASINS Reservoir Storage (1000 AF) - End of April | | | | | UPPER DESCHUTES AND CROOKED BASINS Watershed Snowpack Analysis - May 1, 2011 | | | |
|--|--------------------|-------------------------------------|-----------|-------|---|----------------------------|------------------------------|-----------------|
| Reservoir | Usable Capacity | *** Usable Storage *** This Year | Last Year | Avg | Watershed | Number of Data Sites | This Year as % of Last Yr | % of Average |
| CRANE PRAIRIE | 55.3 | 51.0 | 46.8 | 44.9 | Crooked | 3 | 355 | 254 |
| CRESCENT LAKE | 86.9 | 75.1 | 67.9 | 55.5 | Little Deschutes | 4 | 157 | 148 |
| OCHOCO | 47.5 | 38.4 | 39.8 | 36.0 | Deschutes above Wickiup R | 4 | 194 | 164 |
| PRINEVILLE | 153.0 | 144.0 | 150.6 | 145.0 | Tumalo and Squaw Creeks | 4 | 172 | 137 |
| WICKIUP | 200.0 | 197.8 | 190.2 | 188.5 | | | | |

For more information contact your local Natural Resources Conservation Service Office:
 Redmond (541) 923-4358
 Or visit: <http://www.wcc.nrcs.usda.gov/cgi-bin/bor.pl>



Hood, Mile Creeks, and Lower Deschutes Basins

May 1, 2011



Water Supply Outlook

April was much colder and wetter than normal in the Hood, Mile Creeks and Lower Deschutes basins. April precipitation was a wet 190 percent of average. Since the beginning of the water year, precipitation in the basin has been 113 percent of average.

The snowpack gained at most sites in the basin during April - reaching 169 percent of average on May 1. Snow measurements were collected at 8 SNOTEL sites in the Hood, Mile Creeks and Lower Deschutes basin for the May 1 survey. The May 2011 snowpack resembles May 2009 conditions in the basin.

The May through September streamflow forecasts range from 133 percent of average for the West Fork Hood River near Dee to 138 percent of average for the Hood River at Tucker Bridge. This represents a notable increase from last month's Outlook Report.

For more information contact your local Natural Resources Conservation Service Office:
The Dalles (541) 296-6178

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

HOOD, MILE CREEKS AND LOWER DESCHUTES BASINS
Streamflow Forecasts - May 1, 2011

| Forecast Point | Forecast Period | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | 30-Yr Avg. (1000AF) |
|-------------------------|--------------------|--|-----------------|-----------------|----------|-----------------|-----------------|------------------------|
| | | Chance Of Exceeding * | | | | | | |
| | | 90% (1000AF) | 70% (1000AF) | 50% (1000AF) | (% AVG.) | 30% (1000AF) | 10% (1000AF) | |
| WF Hood River nr Dee | MAY-JUL | 79 | 94 | 105 | 133 | 116 | 131 | 79 |
| Hood R At Tucker Bridge | MAY-JUL | 184 | 200 | 210 | 137 | 220 | 235 | 153 |
| | MAY-SEP | 240 | 255 | 270 | 138 | 285 | 300 | 196 |

HOOD, MILE CREEKS AND LOWER DESCHUTES BASINS
Reservoir Storage (1000 AF) - End of April

HOOD, MILE CREEKS AND LOWER DESCHUTES BASINS
Watershed Snowpack Analysis - May 1, 2011

| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
|--------------------|-----------------|------------------------|-----------|-----|-------------|----------------------|-------------------|---------|
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| CLEAR LAKE (WASCO) | 11.9 | 6.5 | 4.7 | 5.2 | Hood River | 5 | 172 | 151 |
| | | | | | Mile Creeks | 0 | 0 | 0 |
| | | | | | White River | 4 | 175 | 130 |

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management

For more information contact your local Natural Resources Conservation Service Office:

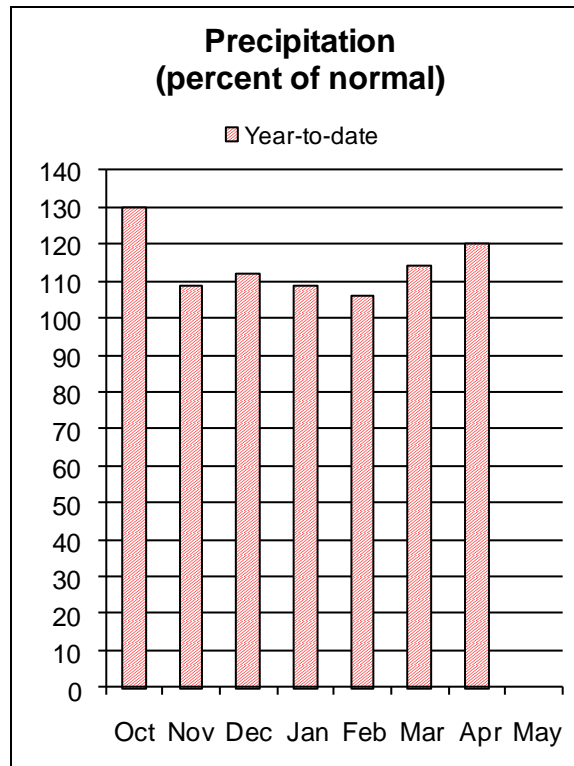
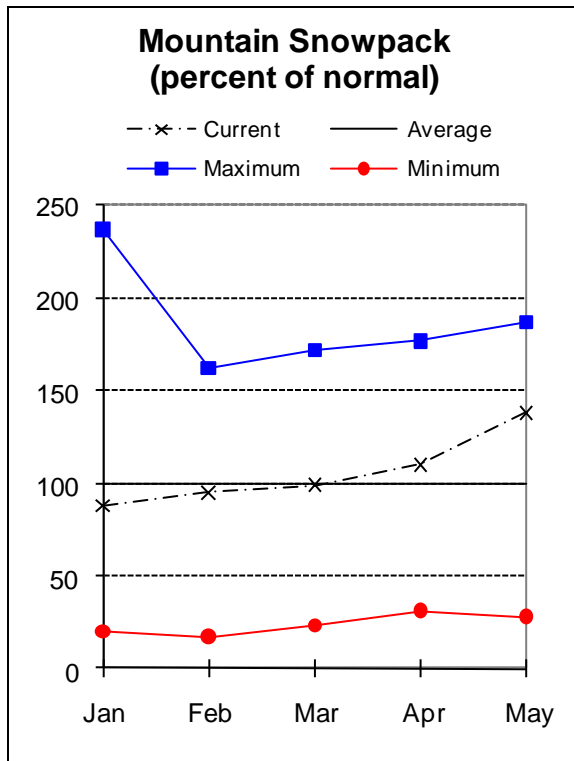
The Dalles (541) 296-6178

Or visit: <http://www.wcc.nrcs.usda.gov/cgi-bin/bor.pl>



Lower Columbia Basin

May 1, 2011



Water Supply Outlook

Wet and cold weather throughout the region brought new snow to the mountains of the Columbia basin during April. Temperatures during April were 6 to 8 degrees below normal slowing seasonal snowmelt. The snowpack in the Columbia Basin above The Dalles was 138 percent of average on May 1, an increase in 28 percentage points over last month. Years with similar May 1 snowpack were 1971, 1975, 1982, and 1999. Since the beginning of the water year, precipitation in the Columbia basin above The Dalles has been 120 percent of average. Locally, precipitation in the Sandy basin was 196 percent of average during April.

In light of the remaining snow in the mountains, water users in low lying areas may want to pay particular attention to weather patterns governing melt rates in anticipation of high runoff.

The summer flow forecast for the Columbia at The Dalles has been increasing steadily over the last few months as the cool, wet spring has boosted streamflows in tributaries throughout the basin and added snow to the mountains. The current forecast for the May through September period is now 123 of average or 104 million acre feet. For the Sandy near Marmot, the May through September streamflow forecast is 127 percent of average.

For more information contact your local Natural Resources Conservation Service Office:
Oregon City - (503) 656-3499

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

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LOWER COLUMBIA BASIN
Streamflow Forecasts - May 1, 2011

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| Forecast Point | Forecast Period | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | |
|------------------------------|-----------------|--|----------|----------|----------|----------|----------|------------|
| | | Chance Of Exceeding * | | | | | | |
| | | 90% | 70% | 50% | | 30% | 10% | 30-Yr Avg. |
| | | (1000AF) | (1000AF) | (1000AF) | (% AVG.) | (1000AF) | (1000AF) | (1000AF) |
| Columbia R at The Dalles (2) | MAY-JUL | 80400 | 84600 | 87400 | 124 | 90200 | 94400 | 70500 |
| | MAY-SEP | 95600 | 101000 | 104000 | 123 | 107000 | 112000 | 84500 |
| Sandy R nr Marmot | MAY-JUL | 220 | 245 | 265 | 127 | 285 | 310 | 209 |
| | MAY-SEP | 275 | 310 | 330 | 127 | 350 | 385 | 259 |

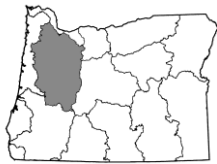
| LOWER COLUMBIA BASIN Reservoir Storage (1000 AF) - End of April | | | | | LOWER COLUMBIA BASIN Watershed Snowpack Analysis - May 1, 2011 | | | |
|--|-----------------|------------------------|-----------|-----|---|----------------------|-------------------|---------|
| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| | | | | | Sandy | 7 | 197 | 167 |

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

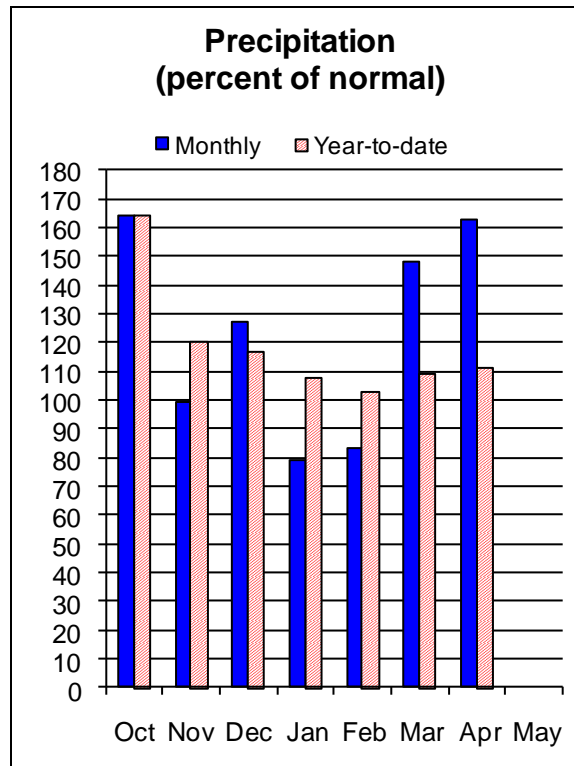
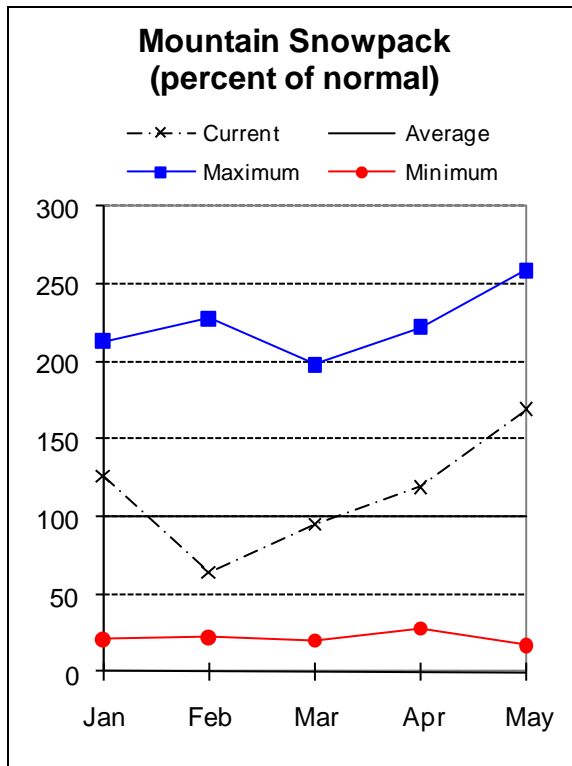
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural volume - actual volume may be affected by upstream water management.

For more information contact your local Natural Resources Conservation Service Office:
 Oregon City - (503) 656-3499
 Or visit: <http://www.wcc.nrcs.usda.gov/cgi-bin/bor.pl>



Willamette Basin

May 1, 2011



Water Supply Outlook

Following a dry January and February, March and April rebounded with well above average precipitation in the Willamette basin. April precipitation was 163 percent of average. Since the beginning of the water year, precipitation in the basin has been 111 percent of average.

The May 1 snowpack as measured at 19 SNOTEL sites was 169 percent of average. It is expected that the snowpack will melt out much later than normal.

April runoff boosted storage at all of the reservoirs in the basin. Reservoirs in the Willamette basin are operating well below capacity in anticipation of additional snowmelt to come. On May 1, storage at Timothy and Hagg Lake reservoirs was 102 percent of average or 97 percent of capacity.

Since the April Outlook Report, summer streamflow forecasts have increased notably at a number of forecast points in the basin. The May through September streamflow forecasts range from 109 percent of average for the North Santiam at Mehama to 156 percent of average for Fern Ridge Lake Inflow. Elsewhere in the basin the McKenzie River near Vida is forecast to be 125 percent of average for the same period.

For more information contact your local Natural Resources Conservation Service Office:
 Eugene - (541) 465-6436; Portland - (503) 231-2270; Tangent - (541) 967-5925; Oregon City - (503) 656-3499;
 Hillsboro - (503) 648-3174; McMinnville - (503) 472-1474
 Salem - (503) 399-5746; Dallas - (503) 623-5534
 Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

WILLAMETTE BASIN
Streamflow Forecasts - May 1, 2011

| | | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | |
|------------------------------------|-----------------|--|-----------------|-----------------|----------|-----------------|-----------------|------------------------|
| Forecast Point | Forecast Period | Chance Of Exceeding * | | | | | | 30-Yr Avg. (1000AF) |
| | | 90% (1000AF) | 70% (1000AF) | 50% (1000AF) | (% AVG.) | 30% (1000AF) | 10% (1000AF) | |
| ===== | | | | | | | | |
| Blue Lake Inflow (1,2) | MAY-JUN | 25 | 42 | 50 | 116 | 58 | 75 | 43 |
| | MAY-SEP | 30 | 47 | 55 | 117 | 63 | 80 | 47 |
| Clackamas R at Estacada | MAY-JUL | 360 | 420 | 460 | 110 | 500 | 560 | 418 |
| | MAY-SEP | 470 | 535 | 580 | 110 | 625 | 690 | 526 |
| Clackamas R ab Three Lynx (2) | MAY-JUL | 280 | 320 | 345 | 111 | 370 | 410 | 312 |
| | MAY-SEP | 375 | 415 | 445 | 111 | 475 | 515 | 400 |
| Cottage Grove Lake Inflow (1,2) | MAY-JUN | 5.3 | 18.2 | 24 | 132 | 30 | 43 | 18.2 |
| | MAY-SEP | 6.3 | 19.8 | 26 | 130 | 32 | 46 | 20 |
| Cougar Lake Inflow (1,2) | MAY-JUN | 119 | 147 | 160 | 137 | 173 | 200 | 117 |
| | MAY-SEP | 174 | 205 | 220 | 137 | 235 | 265 | 161 |
| Detroit Lake Inflow (1,2) | MAY-JUN | 205 | 285 | 325 | 114 | 365 | 445 | 286 |
| | MAY-SEP | 345 | 450 | 495 | 113 | 540 | 645 | 438 |
| Dorena Lake Inflow (1,2) | MAY-JUN | 26 | 67 | 86 | 132 | 105 | 146 | 65 |
| | MAY-SEP | 38 | 80 | 99 | 132 | 118 | 160 | 75 |
| Fall Creek Lake Inflow (1,2) | MAY-JUN | 16.7 | 46 | 60 | 115 | 74 | 103 | 52 |
| | MAY-SEP | 9.4 | 52 | 72 | 114 | 92 | 135 | 63 |
| Fern Ridge Lake Inflow (1,2) | MAY-JUN | 12.4 | 24 | 29 | 156 | 34 | 46 | 18.6 |
| | MAY-SEP | 7.1 | 10.9 | 16.5 | 156 | 22 | 35 | 10.6 |
| Foster Lake Inflow (1,2) | MAY-JUN | 240 | 285 | 305 | 121 | 325 | 370 | 253 |
| | MAY-SEP | 320 | 370 | 390 | 122 | 410 | 460 | 321 |
| Green Peter Lake Inflow (1,2) | MAY-JUN | 116 | 177 | 205 | 122 | 235 | 295 | 168 |
| | MAY-SEP | 161 | 230 | 260 | 121 | 290 | 360 | 215 |
| Hills Creek Reservoir Inflow (1,2) | MAY-JUN | 144 | 186 | 205 | 133 | 225 | 265 | 154 |
| | MAY-SEP | 235 | 280 | 300 | 133 | 320 | 365 | 225 |

For more information contact your local Natural Resources Conservation Service Office:

Eugene - (541) 465-6436; Portland - (503) 231-2270; Tangent - (541) 967-5925; Oregon City - (503) 656-3499; Hillsboro - (503) 648-3174; McMinnville - (503) 472-1474

Salem - (503) 399-5746; Dallas - (503) 623-5534

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

WILLAMETTE BASIN
Streamflow Forecasts - May 1, 2011

| | | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | |
|--------------------------------------|-----------------|--|----------|----------|----------|----------|----------|------------------------|
| Forecast Point | Forecast Period | Chance Of Exceeding * | | | | | | 30-Yr Avg. (1000AF) |
| | | 90% | 70% | 50% | | 30% | 10% | |
| | | (1000AF) | (1000AF) | (1000AF) | (% AVG.) | (1000AF) | (1000AF) | |
| | | | | | | | | |
| Little North Santiam R nr Mehama (1) | MAY-JUN | 31 | 64 | 79 | 111 | 94 | 127 | 71 |
| | MAY-SEP | 44 | 81 | 98 | 110 | 115 | 152 | 89 |
| Lookout Point Lake Inflow (1,2) | MAY-JUN | 370 | 485 | 535 | 135 | 585 | 700 | 395 |
| | MAY-SEP | 560 | 695 | 755 | 135 | 815 | 950 | 558 |
| McKenzie R bl Trail Bridge (2) | MAY-JUL | 199 | 220 | 230 | 119 | 240 | 260 | 193 |
| | MAY-SEP | 290 | 315 | 330 | 118 | 345 | 370 | 279 |
| McKenzie R nr Vida (1,2) | MAY-JUN | 485 | 600 | 650 | 125 | 700 | 815 | 519 |
| | MAY-SEP | 905 | 1050 | 1110 | 125 | 1170 | 1320 | 888 |
| Mohawk R nr Springfield | MAY-JUL | 34 | 48 | 57 | 136 | 66 | 80 | 42 |
| Oak Grove fk ab Power Intake | MAY-JUL | 98 | 106 | 112 | 124 | 118 | 126 | 90 |
| | MAY-SEP | 139 | 150 | 157 | 124 | 164 | 175 | 127 |
| North Santiam R at Mehama (1,2) | MAY-JUN | 255 | 370 | 425 | 109 | 480 | 595 | 390 |
| | MAY-SEP | 415 | 560 | 625 | 109 | 690 | 835 | 572 |
| South Santiam R at Waterloo (2) | MAY-JUN | 121 | 198 | 250 | 125 | 300 | 380 | 200 |
| | MAY-SEP | 305 | 385 | 440 | 125 | 495 | 575 | 353 |
| Scoggins Ck nr Gaston (2) | MAY-JUL | 3.3 | 5.2 | 6.4 | 119 | 7.6 | 9.5 | 5.4 |
| Thomas Ck nr Scio | MAY-JUL | 22 | 37 | 47 | 121 | 57 | 72 | 39 |
| Willamette R at Salem (1,2) | MAY-JUN | 1590 | 2240 | 2530 | 115 | 2820 | 3470 | 2203 |
| | MAY-SEP | 2460 | 3170 | 3490 | 115 | 3810 | 4520 | 3036 |

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table. The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural volume - actual volume may be affected by upstream water management.

For more information contact your local Natural Resources Conservation Service Office:

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Salem - (503) 399-5746; Dallas - (503) 623-5534

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

| WILLAMETTE BASIN Reservoir Storage (1000 AF) - End of April | | | | | WILLAMETTE BASIN Watershed Snowpack Analysis - May 1, 2011 | | | |
|--|--------------------|---|-------|-------|---|----------------------------|------------------------------|-----------------|
| Reservoir | Usable Capacity | *** Usable Storage *** This Year Last Year Avg | | | Watershed | Number of Data Sites | This Year as % of Last Yr | % of Average |
| BLUE RIVER | 85.5 | 69.9 | 74.9 | 70.1 | Clackamas | 4 | 363 | 222 |
| COTTAGE GROVE | 29.8 | 23.8 | 24.7 | 25.9 | McKenzie | 7 | 216 | 150 |
| COUGAR | 155.2 | 122.8 | 83.3 | 188.3 | Row River | 1 | 224 | 142 |
| DETROIT | 300.7 | 268.2 | 258.2 | 293.6 | Santiam | 6 | 333 | 196 |
| DORENA | 70.5 | 53.7 | 57.8 | 62.0 | Middle Fork Willamette | 7 | 172 | 152 |
| FALL CREEK | 115.5 | 99.5 | 106.5 | 96.8 | | | | |
| FERN RIDGE | 109.6 | 93.6 | 92.0 | 93.4 | | | | |
| FOSTER | 29.7 | 3.3 | 3.1 | 11.7 | | | | |
| GREEN PETER | 268.2 | 230.8 | 238.7 | 286.4 | | | | |
| HILLS CREEK | 200.2 | 172.9 | 144.8 | 209.8 | | | | |
| LOOKOUT POINT | 337.0 | 272.6 | 182.6 | 265.0 | | | | |
| TIMOTHY LAKE | 61.7 | 58.5 | 60.6 | 56.9 | | | | |
| HENRY HAGG LAKE | 53.0 | 53.3 | 53.1 | 52.7 | | | | |

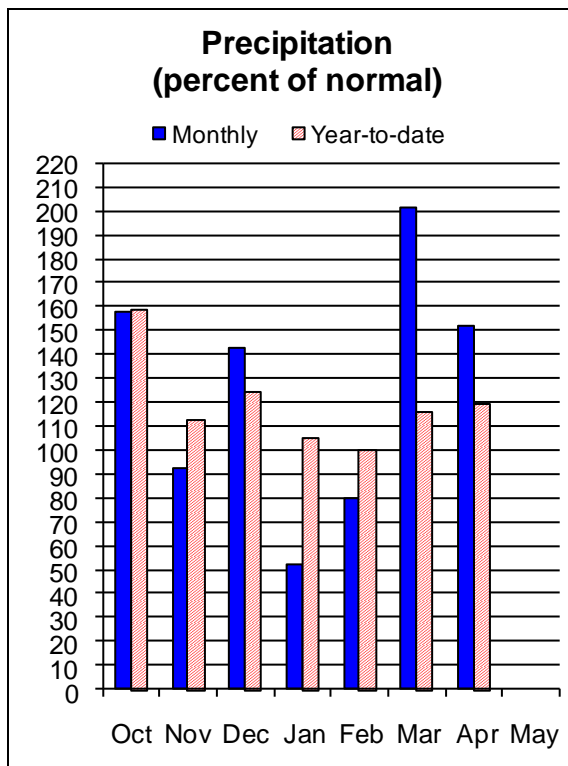
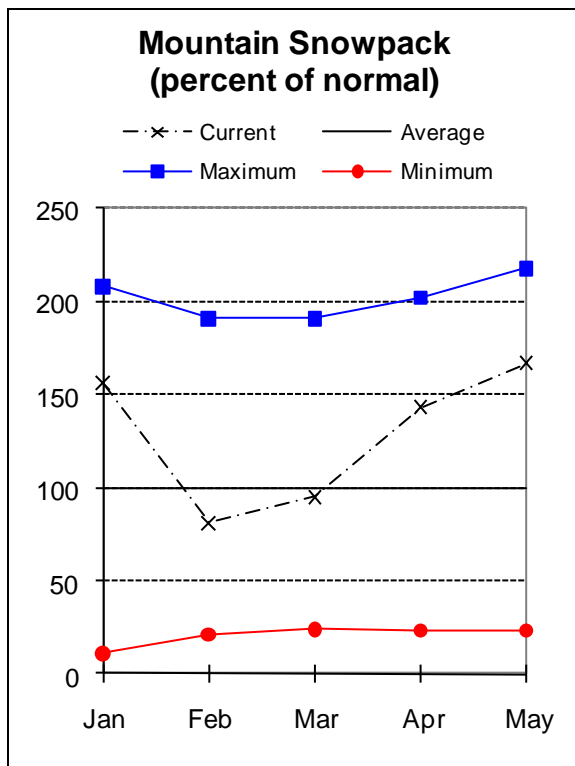
The average is computed for the 1971-2000 base period.

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Rogue and Umpqua Basins

May 1, 2011



Water Supply Outlook

Following a dry January and February, March and April rebounded with well above average precipitation in the Rogue and Umpqua basins. April precipitation was 152 percent of average. Since the beginning of the water year, precipitation in the basins has been 119 percent of average.

The snow began to melt out slowly at most sites in the basin during April while other sites continued to gain snow pack during the month. The May 2011 snowpack resembles May 2008 conditions in the basin. On May 1, the snowpack as measured at 12 snow courses and 12 SNOTEL sites was 167 percent of average.

April runoff filled reservoirs in the Rogue and Umpqua basin to near capacity. May 1 storage at the 5 irrigation reservoirs in the basin was 114 percent of average or 94 percent of capacity.

The May through September streamflow forecasts range from 126 percent of average for South Fork Big Butte Creek near Butte Falls to 177 percent of average for Cow Creek near Azalea. Elsewhere in the basin, Applegate Lake inflow is forecast to be 147 percent of average for the same period.

For more information contact your local Natural Resources Conservation Service Office:

Roseburg - (541) 673-8316; Medford - (541) 776-4267

Or visit: <http://www.wcc.nrcs.usda.gov/cgi-bin/bor.pl>

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ROGUE AND UMPQUA BASINS
Streamflow Forecasts - May 1, 2011

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| | | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | |
|--------------------------------------|-----------------|--|----------|----------|----------|----------|----------|------------------------|
| Forecast Point | Forecast Period | Chance Of Exceeding * | | | | | | 30-Yr Avg. (1000AF) |
| | | 90% | 70% | 50% | | 30% | 10% | |
| | | (1000AF) | (1000AF) | (1000AF) | (% AVG.) | (1000AF) | (1000AF) | |
| ===== | | | | | | | | |
| Applegate Lake Inflow (2) | MAY-JUL | 85 | 97 | 106 | 147 | 115 | 127 | 72 |
| | MAY-SEP | 93 | 106 | 115 | 147 | 124 | 137 | 78 |
| SF Big Butte Ck nr Butte Falls | MAY-JUL | 21 | 25 | 28 | 127 | 31 | 35 | 22 |
| | MAY-SEP | 30 | 36 | 39 | 126 | 42 | 48 | 31 |
| Cow Ck nr Azalea (2) | MAY-JUL | 8.5 | 11.8 | 14.0 | 177 | 16.2 | 19.5 | 7.9 |
| | MAY-SEP | 10.2 | 13.7 | 16.1 | 177 | 18.5 | 22 | 9.1 |
| Hyatt Prairie Reservoir Inflow (2) | MAY-JUL | 2.2 | 3.2 | 3.9 | 163 | 4.6 | 5.6 | 2.4 |
| Illinois R at Kerby | MAY-JUL | 79 | 105 | 123 | 148 | 141 | 167 | 83 |
| | MAY-SEP | 88 | 115 | 133 | 148 | 151 | 178 | 90 |
| NF Little Butte Ck nr Lakecreek (2) | MAY-JUL | 25 | 29 | 32 | 128 | 35 | 39 | 25 |
| | MAY-SEP | 41 | 46 | 50 | 127 | 54 | 59 | 40 |
| Lost Creek Lake Inflow (2) | MAY-JUL | 450 | 490 | 515 | 136 | 540 | 580 | 380 |
| | MAY-SEP | 620 | 670 | 700 | 136 | 730 | 780 | 515 |
| Rogue R at Raygold (2) | MAY-JUL | 465 | 550 | 605 | 126 | 660 | 745 | 480 |
| | MAY-SEP | 660 | 750 | 810 | 126 | 870 | 960 | 645 |
| Rogue R at Grants Pass (2) | MAY-JUL | 490 | 580 | 640 | 136 | 700 | 790 | 470 |
| | MAY-SEP | 670 | 770 | 835 | 136 | 900 | 1000 | 615 |
| Sucker Ck bl Ltl Grayback Ck nr Holl | MAY-JUL | 37 | 43 | 47 | 152 | 51 | 57 | 31 |
| | MAY-SEP | 43 | 49 | 53 | 151 | 57 | 63 | 35 |
| North Umpqua R at Winchester | MAY-JUL | 560 | 655 | 720 | 147 | 785 | 880 | 490 |
| | MAY-SEP | 745 | 840 | 905 | 147 | 970 | 1070 | 615 |
| South Umpqua R nr Brockway | MAY-JUL | 215 | 280 | 330 | 173 | 380 | 445 | 191 |
| | MAY-SEP | 240 | 315 | 365 | 174 | 415 | 490 | 210 |
| South Umpqua R at Tiller | MAY-JUL | 111 | 143 | 165 | 156 | 187 | 220 | 106 |
| | MAY-SEP | 126 | 159 | 181 | 156 | 205 | 235 | 116 |

For more information contact your local Natural Resources Conservation Service Office:
Roseburg - (541) 673-8316; Medford - (541) 776-4267
Or visit: <http://www.wcc.nrcs.usda.gov/cgi-bin/bor.pl>

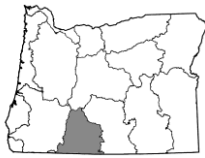
| ROGUE AND UMPQUA BASINS Reservoir Storage (1000 AF) - End of April | | | | | ROGUE AND UMPQUA BASINS Watershed Snowpack Analysis - May 1, 2011 | | | |
|---|--------------------|-------------------------------------|-----------|-------|--|----------------------------|------------------------------|-----------------|
| Reservoir | Usable Capacity | *** Usable Storage *** This Year | Last Year | Avg | Watershed | Number of Data Sites | This Year as % of Last Yr | % of Average |
| APPLEGATE | 75.2 | 56.0 | 61.5 | 64.5 | Applegate | 5 | 132 | 141 |
| EMIGRANT LAKE | 39.0 | 38.3 | 35.3 | 35.9 | Bear Creek | 4 | 123 | 131 |
| FISH LAKE | 8.0 | 5.4 | 5.1 | 6.2 | Little Butte Creek | 6 | 208 | 212 |
| FOURMILE LAKE | 16.1 | 10.9 | 9.7 | 11.0 | Illinois | 1 | 309 | 314 |
| HOWARD PRAIRIE | 60.0 | 60.5 | 42.1 | 48.8 | North Umpqua | 5 | 217 | 184 |
| HYATT PRAIRIE | 16.1 | 15.9 | 12.8 | 13.3 | Rogue River above Grants | 19 | 169 | 166 |
| LOST CREEK | 315.0 | 160.6 | 139.1 | 283.2 | | | | |

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

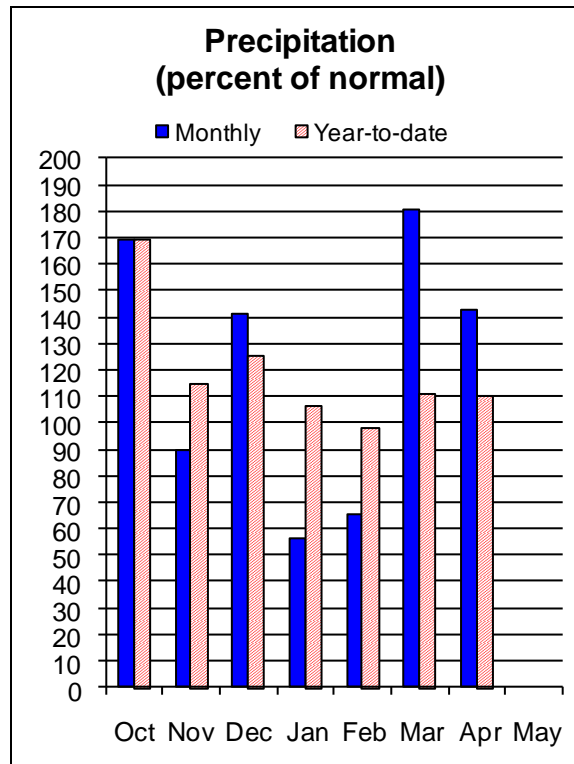
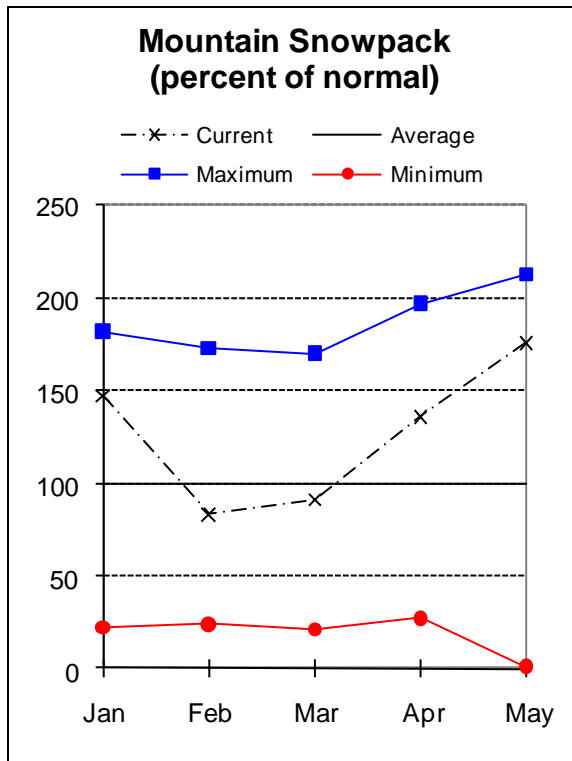
- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

For more information contact your local Natural Resources Conservation Service Office:
Roseburg - (541) 673-8316; Medford - (541) 776-4267
Or visit: <http://www.wcc.nrcs.usda.gov/cgi-bin/bor.pl>



Klamath Basin

May 1, 2011



Water Supply Outlook

Following an extremely dry January and February, a series of cold wet storms in March and April delivered well above average precipitation to the Klamath basin. The wet spring boosted the total water year precipitation to 110 of average on May 1. April precipitation was 143 percent of average.

The cool, wet spring has sustained the snowpack in the Klamath basin. On May 1 the snowpack in the Klamath basin was 176 percent of average. May 1 snowpack measurements were taken at 15 SNOTEL sites and 4 snow courses. Water users in the basin may remember the snowpack of May 2008. The May 2011 snowpack is above May 2008 levels.

Klamath basin reservoir storage increased during April as spring rains and snowmelt brought higher than normal streamflows to the entire basin. On May 1, storage at Clear Lake (CA), Gerber Reservoir and Upper Klamath Lake was 92 percent of average or 67 percent of capacity. Upper Klamath Lake was near capacity on May 1.

Since the April Outlook Report, summer streamflow forecasts have increased slightly at forecast points in the basin. The May through September streamflow forecasts range from 132 percent of average for both Upper Klamath Lake Inflow and the Williamson River below Sprague River near Chiloquin to 156 percent of average for Gerber Reservoir Inflow.

For more information contact your local Natural Resources Conservation Service Office:

Klamath Falls - (541) 883-6932

Or visit: <http://www.wcc.nrcs.usda.gov/cgi-bin/bor.pl>

KLAMATH BASIN
Streamflow Forecasts - May 1, 2011

| | | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | |
|--------------------------------------|-----------------|--|----------|----------|----------|----------|----------|------------------------|
| Forecast Point | Forecast Period | Chance Of Exceeding * | | | | | | 30-Yr Avg. (1000AF) |
| | | 90% | 70% | 50% | | 30% | 10% | |
| | | (1000AF) | (1000AF) | (1000AF) | (% AVG.) | (1000AF) | (1000AF) | |
| Clear Lake Inflow (2) | MAY-JUL | 10.4 | 20 | 27 | 140 | 34 | 44 | 19.3 |
| | MAY-SEP | 21 | 30 | 36 | 139 | 42 | 51 | 26 |
| Gerber Reservoir Inflow (2) | MAY-JUL | 0.4 | 5.9 | 10.0 | 156 | 14.1 | 20 | 6.4 |
| | MAY-SEP | 0.4 | 6.3 | 10.3 | 156 | 14.3 | 20 | 6.6 |
| Sprague R nr Chiloquin | MAY-JUL | 141 | 168 | 186 | 145 | 205 | 230 | 128 |
| | MAY-SEP | 180 | 205 | 225 | 145 | 245 | 270 | 155 |
| Upper Klamath Lake Inflow (1,2) | MAY-JUL | 250 | 310 | 335 | 131 | 360 | 420 | 255 |
| | MAY-SEP | 355 | 420 | 450 | 132 | 480 | 545 | 340 |
| Williamson R bl Sprague R nr Chiloqu | MAY-JUL | 220 | 250 | 270 | 132 | 290 | 320 | 205 |
| | MAY-SEP | 300 | 330 | 350 | 132 | 370 | 400 | 265 |

KLAMATH BASIN
Reservoir Storage (1000 AF) - End of April

KLAMATH BASIN
Watershed Snowpack Analysis - May 1, 2011

| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
|--------------------|-----------------|------------------------|-----------|-------|--------------------|----------------------|-------------------|---------|
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| CLEAR LAKE (CALIF) | 513.3 | 182.4 | 78.2 | 264.3 | Lost | 2 | 168 | 125 |
| GERBER | 94.3 | 74.9 | 36.1 | 72.9 | Sprague | 5 | 202 | 258 |
| UPPER KLAMATH LAKE | 523.7 | 500.6 | 327.1 | 483.4 | Upper Klamath Lake | 7 | 159 | 159 |
| | | | | | Williamson River | 5 | 165 | 148 |

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural volume - actual volume may be affected by upstream water management.

For more information contact your local Natural Resources Conservation Service Office:

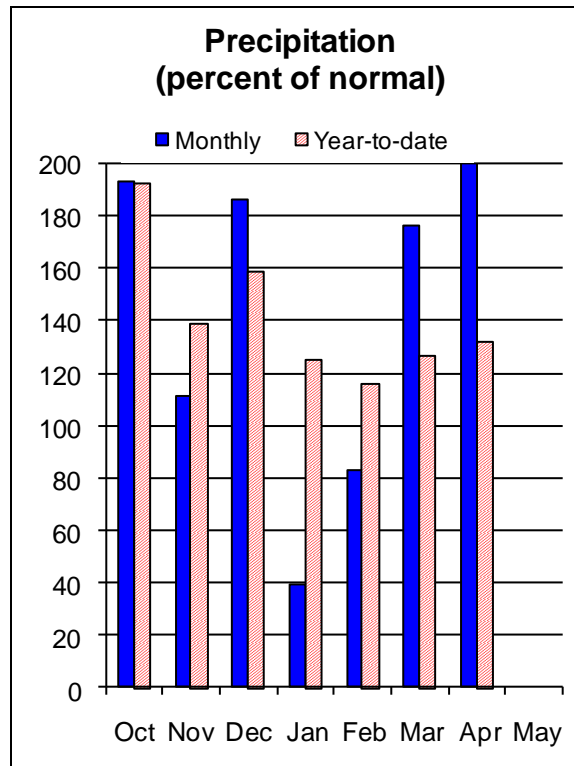
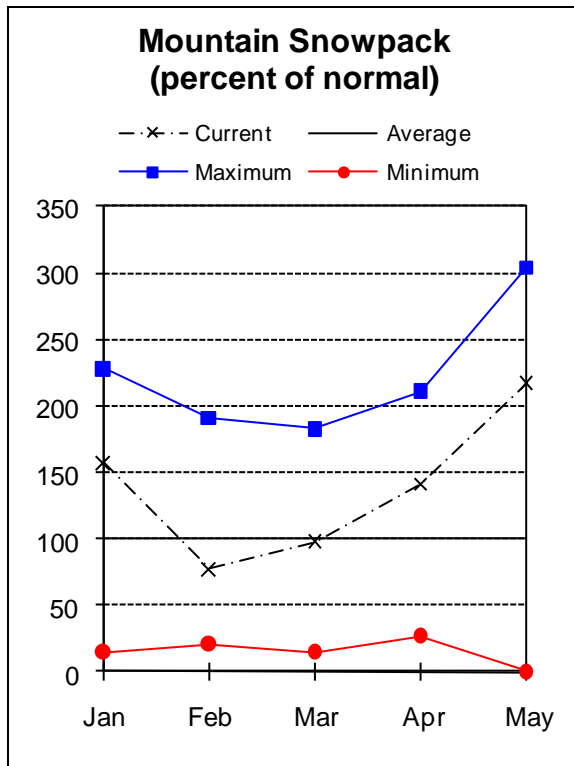
Klamath Falls - (541) 883-6932

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>



Lake County and Goose Lake

May 1, 2011



Water Supply Outlook

Following an extremely dry January and February, a series of cold wet storms in March and April delivered well above average precipitation to Lake County and Goose Lake basins. April precipitation was 200 percent of average, the highest in the state. Since the beginning of the water year, precipitation in the basin has been 132 percent of average.

On May 1, the snowpack as measured at 9 SNOTEL sites in Lake County and Goose Lake basins was 217 percent of average. Snow conditions this year are similar to those observed in May 2006.

Cottonwood reservoir reached capacity during March runoff. Drews reservoir filled during April. As of May 1, both reservoirs were at capacity. Current storage is 126 percent of average.

Since the April Outlook Report, summer streamflow forecasts have increased notably at all forecast points in the basin. The May through September streamflow forecasts range from 168 percent of average for the Chewaucan River near Paisley to 235 percent of average for Silver Creek near Silver Lake. Elsewhere in the basin Honey Creek near Plush is forecast to be 191 percent of average for the same period.

For more information contact your local Natural Resources Conservation Service Office:
Lakeview - (541) 947-2202

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

LAKE COUNTY AND GOOSE LAKE BASINS
Streamflow Forecasts - May 1, 2011

| | | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | | |
|------------------------------|-----------------|--|----------|----------|----------|----------|----------|------------|--|
| Forecast Point | Forecast Period | Chance Of Exceeding * | | | | | | | |
| | | | | 50% | | | | | |
| | | 90% | 70% | (1000AF) | (% AVG.) | 30% | 10% | 30-Yr Avg. | |
| | | (1000AF) | (1000AF) | (1000AF) | (% AVG.) | (1000AF) | (1000AF) | (1000AF) | |
| Chewaucan R nr Paisley | MAY-JUL | 70 | 81 | 88 | 169 | 95 | 106 | 52 | |
| | MAY-SEP | 76 | 87 | 94 | 168 | 101 | 112 | 56 | |
| Deep Ck ab Adel | MAY-JUL | 61 | 72 | 79 | 176 | 86 | 97 | 45 | |
| | MAY-SEP | 64 | 75 | 83 | 177 | 91 | 102 | 47 | |
| Honey Ck nr Plush | MAY-JUL | 14.8 | 18.5 | 21 | 194 | 24 | 27 | 10.8 | |
| | MAY-SEP | 14.7 | 18.4 | 21 | 191 | 24 | 27 | 11.0 | |
| Silver Ck nr Silver Lake (2) | MAY-JUL | 8.3 | 11.0 | 12.8 | 236 | 14.6 | 17.3 | 5.4 | |
| | MAY-SEP | 9.4 | 12.1 | 14.0 | 235 | 15.9 | 18.6 | 6.0 | |
| Twentymile Ck nr Adel | MAY-JUL | 10.9 | 18.1 | 23 | 217 | 28 | 35 | 10.6 | |
| | MAY-SEP | 11.8 | 19.1 | 24 | 216 | 29 | 36 | 11.1 | |

LAKE COUNTY AND GOOSE LAKE BASINS
Reservoir Storage (1000 AF) - End of April

LAKE COUNTY AND GOOSE LAKE BASINS
Watershed Snowpack Analysis - May 1, 2011

| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
|------------|-----------------|------------------------|-----------|------|-------------------------|----------------------|-------------------|---------|
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| COTTONWOOD | 8.7 | 9.3 | 6.3 | 6.7 | Chewaucan River | 3 | 197 | 234 |
| DREWS | 63.0 | 63.5 | 18.1 | 51.0 | Deep Creek | 0 | 0 | 0 |
| | | | | | Drew Creek | 2 | 0 | 111 |
| | | | | | Honey Creek | 0 | 0 | 0 |
| | | | | | Silver Creek (Lake Co.) | 4 | 237 | 260 |
| | | | | | Twentymile Creek | 0 | 0 | 0 |

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

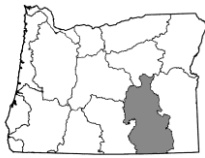
The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

For more information contact your local Natural Resources Conservation Service Office:

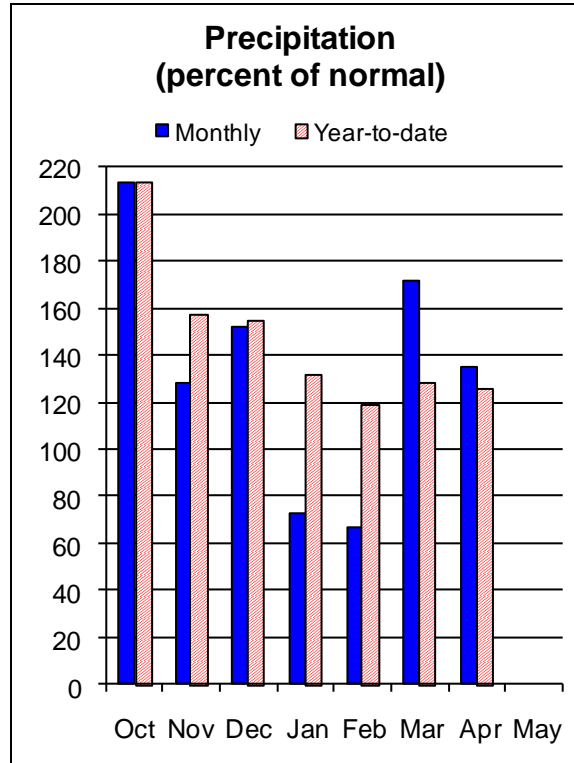
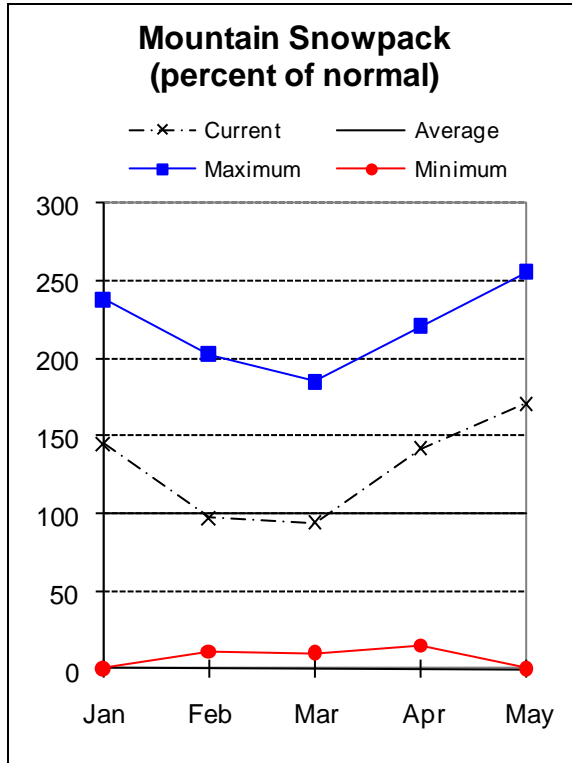
Lakeview - (541) 947-2202

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>



Harney Basin

May 1, 2011



Water Supply Outlook

Following an extremely dry January and February, a series of cold wet storms in March and April delivered well above average precipitation to the Harney basin. April precipitation was 135 of average. Since the beginning of the water year, precipitation in the Harney basin has been 126 of average.

The wet and cold April has delayed snowpack melt out in the Harney basin. The May 1 snowpack as measured at 9 SNOTEL sites was 171 percent of average.

Since the April Outlook Report, summer streamflow forecasts have increased notably at all forecast points in the basin. The May through September streamflow forecasts range from 152 percent of average for the Donner und Blitzen River near Frenchglen to 219 percent of average for the Silvies River near Burns. Elsewhere in the basin, Trout Creek near Denio is forecast to be 201 percent of average for the same period.

For more information contact your local Natural Resources Conservation Service Office:

Hines - (541) 573-6446

Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

HARNEY BASIN
Streamflow Forecasts - May 1, 2011

| | | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | |
|------------------------------------|-----------------|--|----------|----------|----------|----------|----------|------------------------|
| Forecast Point | Forecast Period | Chance Of Exceeding * | | | | | | 30-Yr Avg. (1000AF) |
| | | 90% | 70% | 50% | | 30% | 10% | |
| | | (1000AF) | (1000AF) | (1000AF) | (% AVG.) | (1000AF) | (1000AF) | |
| Donner Und Blitzen R nr Frenchglen | MAY-JUL | 55 | 68 | 76 | 152 | 84 | 97 | 50 |
| | MAY-SEP | 63 | 76 | 85 | 152 | 94 | 107 | 56 |
| Silvies R nr Burns | MAY-JUL | 79 | 96 | 108 | 220 | 120 | 137 | 49 |
| | MAY-SEP | 84 | 102 | 114 | 219 | 126 | 144 | 52 |
| Trout Ck nr Denio | MAY-JUL | 11.7 | 13.4 | 14.5 | 201 | 15.6 | 17.3 | 7.2 |
| | MAY-SEP | 12.9 | 14.6 | 15.7 | 201 | 16.8 | 18.5 | 7.8 |

| HARNEY BASIN Reservoir Storage (1000 AF) - End of April | | | | | HARNEY BASIN Watershed Snowpack Analysis - May 1, 2011 | | | |
|--|-----------------|------------------------|-----------|-----|---|----------------------|-------------------|---------|
| Reservoir | Usable Capacity | *** Usable Storage *** | | | Watershed | Number of Data Sites | This Year as % of | |
| | | This Year | Last Year | Avg | | | Last Yr | Average |
| | | | | | Donner und Blitzen River | 2 | 145 | 168 |
| | | | | | Silver Creek (Harney Co.) | 2 | 187 | 207 |
| | | | | | Silvies River | 5 | 273 | 209 |
| | | | | | Trout Creek | 2 | 162 | 167 |

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural volume - actual volume may be affected by upstream water management.

For more information contact your local Natural Resources Conservation Service Office:
Hines - (541) 573-6446
Or visit: <http://www.wcc.nrcs.usda.gov/cgibin/bor.pl>

Recession Flow Forecasts

Recession flow forecasts are presented below for key streamflow sites where reliable daily streamflow data are available. The recession flow forecasts use exceedance probabilities in a format similar to the standard water supply forecasts presented in this document. Each forecast provides a range of possible outcomes representing the uncertainty of forecasting models.

The types of forecasts in the table below are:

- 1) Threshold flow -- Date that the daily streamflow rate falls below the given threshold flow
- 2) Peak flow -- Maximum daily flow
- 3) Date of peak flow -- Date of occurrence of maximum daily flow
- 4) Average daily flow on a given date

| OWYHEE AND MALHEUR BASINS | | | | | |
|---------------------------|--------------------|--|--------|--------|----------------------------|
| FORECAST POINT | FORECAST THRESHOLD | FORECAST VALUE ----- CHANCE OF EXCEEDING ----- ----- | | | LONG-TERM AVERAGE VALUE |
| | | 90% | 50% | 10% | |
| Owyhee R nr Rome | 2000 cfs | May 23 | Jun 16 | Jul 10 | May 06 |
| Owyhee R nr Rome | 1000 cfs | Jun 08 | Jul 06 | Aug 02 | May 18 |
| Owyhee R nr Rome | 500 cfs | Jun 30 | Jul 25 | Aug 17 | Jun 02 |

| UPPER JOHN DAY BASIN | | | | | |
|-----------------------------|--------------------------------|--|-----|-----|----------------------------|
| FORECAST POINT | FORECAST THRESHOLD | FORECAST VALUE ----- CHANCE OF EXCEEDING ----- ----- | | | LONG-TERM AVERAGE VALUE |
| | | 90% | 50% | 10% | |
| John Day R at Service Creek | Average Daily Flow on Aug. 1st | 310 | 495 | 680 | 271 |

| UPPER DESCHUTES AND CROOKED BASINS | | | | | |
|------------------------------------|--------------------------------|--|--------|--------|----------------------------|
| FORECAST POINT | FORECAST THRESHOLD | FORECAST VALUE ----- CHANCE OF EXCEEDING ----- ----- | | | LONG-TERM AVERAGE VALUE |
| | | 90% | 50% | 10% | |
| Crane Prairie Inflow* | Date of Peak | May 23 | Jun 06 | Jun 20 | May 25 |
| Crane Prairie Inflow | Peak Flow | 290 | 410 | 530 | 403 |
| Crane Prairie Inflow | Average Daily Flow on Oct. 1st | 250 | 285 | 320 | 269 |
| | | | | | |
| Prineville Reservoir Inflow | 113 cfs | May 31 | Jun 20 | Jul 10 | June 03 |
| Prineville Reservoir Inflow | 75 cfs | Jun 06 | Jun 26 | Jul 16 | June 11 |
| Prineville Reservoir Inflow | 50 cfs | Jun 11 | Jul 02 | Jul 23 | June 19 |
| | | | | | |
| Whychus Creek nr Sisters | 100 cfs | Aug 03 | Aug 26 | Sep 18 | August 16 |

| ROGUE AND UMPQUA BASINS | | | | | |
|------------------------------|--------------------|--|--------|--------|----------------------------|
| FORECAST POINT | FORECAST THRESHOLD | FORECAST VALUE ----- CHANCE OF EXCEEDING ----- ----- | | | LONG-TERM AVERAGE VALUE |
| | | 90% | 50% | 10% | |
| South Umpqua R nr Brockway * | 90 cfs | Aug 12 | Aug 29 | Sep 16 | August 08 |
| | | | | | |
| South Umpqua R at Tiller | 140 cfs | Jul 10 | Jul 28 | Aug 17 | July 11 |
| South Umpqua R at Tiller | 90 cfs | Aug 02 | Aug 18 | Sep 06 | August 01 |
| South Umpqua R at Tiller | 60 cfs | Aug 22 | Sep 15 | Oct 11 | August 28 |

*Dates are based on streamflow data adjusted for releases from Galesville Reservoir to reflect natural flow conditions and do not match observed gage data. There is approximately 20% chance in any given year that the flow will not recede below 90 cfs; the dates given here are for the event that the flow does recede below 90 cfs.

| LAKE COUNTY AND GOOSE LAKE BASINS | | | | | |
|-----------------------------------|--------------------|--|--------|--------|----------------------------|
| FORECAST POINT | FORECAST THRESHOLD | FORECAST VALUE ----- CHANCE OF EXCEEDING ----- ----- | | | LONG-TERM AVERAGE VALUE |
| | | 90% | 50% | 10% | |
| Deep Ck ab Adel | 100 cfs | Jun 20 | Jul 05 | Jul 18 | June 17 |
| | | | | | |
| Honey Ck nr Plush | 100 cfs | May 28 | Jun 22 | Jul 17 | May 16 |
| Honey Ck nr Plush | 50 cfs | Jun 19 | Jul 12 | Aug 02 | June 04 |
| | | | | | |
| Twentymile Ck nr Adel | 50 cfs | May 26 | Jun 21 | Jul 17 | May 30 |
| Twentymile Ck nr Adel | 10 cfs | Jul 05 | Jul 24 | Aug 12 | July 20 |

| HARNEY BASIN | | | | | |
|------------------------------------|--------------------|--|--------|--------|----------------------------|
| FORECAST POINT | FORECAST THRESHOLD | FORECAST VALUE ----- CHANCE OF EXCEEDING ----- ----- | | | LONG-TERM AVERAGE VALUE |
| | | 90% | 50% | 10% | |
| Silvies R nr Burns | 400 cfs | May 25 | Jun 10 | Jun 26 | May 21 |
| | 200 cfs | Jun 10 | Jul 01 | Jul 23 | June 02 |
| | 100 cfs | Jul 01 | Jul 23 | Aug 12 | June 13 |
| | 50 cfs | Jul 28 | Aug 18 | Sep 11 | July 03 |
| | | | | | |
| Donner Und Blitzen R nr Frenchglen | 200 cfs | Jun 25 | Jul 10 | Jul 23 | June 20 |
| Donner Und Blitzen R nr Frenchglen | 100 cfs | Jul 15 | Jul 30 | Aug 12 | July 09 |

Summary of Snow Course Data

May 2011

| SNOW COURSE | ELEVATION | DATE | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE 71-00 |
|----------------------|-----------|---------|---------------|------------------|--------------|------------------|
| Oregon | | | | | | |
| ANEROID LAKE SNOTEL | 7400 | 5/01/11 | 85 | 27.4 | 20.6 | 26.2 |
| ANNIE SPRING SNOTEL | 6010 | 5/01/11 | 134 | 57.0 | 40.5 | 39.7 |
| ANTHONY LAKE (REV) | 7130 | 4/29/11 | 93 | 34.2 | 18.6 | -- |
| ARBuckle MTN SNOTEL | 5770 | 5/01/11 | 60 | 20.6 | 10.8 | 15.0 |
| BEAVER DAM CREEK | 5100 | 5/02/11 | 31 | 13.9 | 2.4 | 4.1 |
| BEAVER RES. SNOTEL | 5150 | 5/01/11 | 28 | 13.9 | .5 | 1.4 |
| BIG RED MTN SNOTEL | 6050 | 5/01/11 | 91 | 39.8 | 29.6 | 26.4 |
| BIGELow CAMP SNOTEL | 5130 | 5/01/11 | 40 | 20.4 | 6.6 | 6.5 |
| BILLIE CK DVD SNOTEL | 5280 | 5/01/11 | 53 | 24.4 | 14.0 | 10.2 |
| BLAZED ALDER SNOTEL | 3650 | 5/01/11 | 103 | 46.5 | 16.2 | 23.3 |
| BLUE MTN SPGS SNOTEL | 5870 | 5/01/11 | 38 | 16.4 | 4.9 | 8.3 |
| BOURNE SNOTEL | 5850 | 5/01/11 | 44 | 18.5 | 4.4 | 9.1 |
| BOWMAN SPRNGS SNOTEL | 4530 | 5/01/11 | 9 | 4.4 | .0 | .8 |
| CALIBAN ALT | 6500 | 5/02/11 | 94 | 38.4 | 33.8 | 31.5 |
| CASCADE SUM. SNOTEL | 5100 | 5/01/11 | 108 | 42.1 | 27.0 | 27.9 |
| CHEMULT ALT SNOTEL | 4850 | 5/01/11 | 5 | 2.5 | .0 | .7 |
| CLACKAMAS LK. SNOTEL | 3400 | 5/01/11 | 19 | 7.1 | .0 | 2.3 |
| CLEAR LAKE SNOTEL | 3810 | 5/01/11 | 34 | 12.4 | .0 | 5.8 |
| COLD SPRINGS SNOTEL | 5940 | 5/01/11 | 83 | 39.7 | 22.0 | 21.3 |
| COUNTY LINE SNOTEL | 4830 | 5/01/11 | 0 | .0 | .1 | .4 |
| CRAZYMAN FLAT SNOTEL | 6180 | 5/01/11 | 44 | 20.2 | 8.2 | 6.3 |
| DALY LAKE SNOTEL | 3690 | 5/01/11 | 41 | 17.3 | 1.4 | 3.9 |
| DEADWOOD JUNCTION | 4600 | 5/02/11 | 5 | 2.2 | .0 | .8 |
| DERR SNOTEL | 5850 | 5/01/11 | 40 | 15.3 | 2.5 | 6.5 |
| DIAMOND LAKE SNOTEL | 5280 | 5/01/11 | 45 | 23.6 | 3.6 | 6.3 |
| EILERTSON SNOTEL | 5510 | 5/01/11 | 19 | 14.9 | .0 | 3.4 |
| EMIGRANT SPGS SNOTEL | 3800 | 5/01/11 | 0 | .0 | .0 | .1 |
| FISH CREEK SNOTEL | 7660 | 5/01/11 | 109 | 52.5 | 32.4 | 28.6 |
| FISH LK. SNOTEL | 4660 | 5/01/11 | 33 | 13.1 | 3.6 | 1.4 |
| FOURMILE LAKE SNOTEL | 5970 | 5/01/11 | 73 | 30.9 | 21.6 | 23.5 |
| GERBER RES SNOTEL | 4890 | 5/01/11 | 0 | .0 | .0 | .0 |
| GOLD CENTER SNOTEL | 5410 | 5/01/11 | 16 | 6.4 | .0 | 1.0 |
| GREENPOINT SNOTEL | 3310 | 5/01/11 | 37 | 14.8 | 5.0 | 4.4 |
| HIGH RIDGE SNOTEL | 4920 | 5/01/11 | 74 | 29.6 | 9.3 | 15.9 |
| HOGG PASS SNOTEL | 4790 | 5/01/11 | 79 | 30.4 | 20.9 | 34.3 |
| HOLLAND MDWS SNOTEL | 4930 | 5/01/11 | 73 | 24.2 | 10.8 | 17.0 |
| HOWARD PRAIRIE | 4500 | 5/02/11 | 5 | 2.1 | .0 | .9 |
| IRISH-TAYLOR SNOTEL | 5540 | 5/01/11 | 119 | 44.1 | 32.5 | 38.8 |
| JUMP OFF JOE SNOTEL | 3520 | 5/01/11 | 44 | 17.9 | .0 | 3.5 |
| KING MTN #1 | 4500 | 4/28/11 | 32 | 12.7 | .8 | 2.8 |
| KING MTN #2 SNOTEL | 4340 | 5/01/11 | 20 | 9.3 | .0 | .9 |
| KING MTN #3 | 3650 | 4/28/11 | 2 | 1.0 | .0 | .0 |
| LAKE CK R.S. SNOTEL | 5240 | 5/01/11 | 10 | 4.1 | .0 | 1.3 |
| LITTLE MEADOW SNOTEL | 4020 | 5/01/11 | 99 | 46.3 | 19.1 | 16.9 |
| LUCKY STRIKE SNOTEL | 4970 | 5/01/11 | 21 | 9.1 | .0 | 2.7 |
| MADISON BUTTE SNOTEL | 5150 | 5/01/11 | 2 | .2 | .0 | .4 |
| MARION FORKS SNOTEL | 2590 | 5/01/11 | 14 | 6.5 | .0 | 3.6 |
| MCKENZIE SNOTEL | 4770 | 5/01/11 | 120 | 58.2 | 30.6 | 40.0 |
| MEACHAM | 4300 | 5/03/11 | 5 | 2.0 | .0 | 1.6 |
| MILLER WOODS SNOTEL | 420 | 5/01/11 | 0 | .0 | .0 | -- |
| MOSS SPRINGS SNOTEL | 5760 | 5/01/11 | 86 | 35.1 | 17.8 | 22.3 |
| MT ASHLAND SWBK. | 6400 | 5/02/11 | 96 | 39.2 | 32.3 | 33.0 |
| MT HOOD TEST SNOTEL | 5370 | 5/01/11 | 174 | 68.2 | 49.8 | 63.9 |
| MT HOWARD SNOTEL | 7910 | 5/01/11 | 52 | 20.0 | 15.0 | 16.9 |
| MUD RIDGE SNOTEL | 4070 | 5/01/11 | 71 | 29.8 | 17.5 | 18.2 |
| NEW CRESCENT SNOTEL | 4910 | 5/01/11 | 35 | 8.9 | .0 | 3.0 |
| NEW DUTCHMAN #3 | 6320 | 4/27/11 | 153 | 62.7 | 42.1 | 55.4 |
| NORTH FK RES SNOTEL | 3060 | 5/01/11 | 80 | 35.7 | 11.0 | 6.9 |

| SNOW COURSE | | ELEVATION | DATE | SNOW DEPTH | WATER CONTENT | LAST YEAR | AVERAGE 71-00 |
|-----------------------|--------|-----------|---------|---------------|------------------|--------------|------------------|
| Oregon (cont.) | | | | | | | |
| OCHOCO MEADOW | SNOTEL | 5430 | 5/01/11 | 24 | 9.2 | .5 | 1.8 |
| PARK H.Q. REV | | 6550 | 4/28/11 | 177 | 79.4 | 54.0 | 63.1 |
| PEAVINE RIDGE | SNOTEL | 3420 | 5/01/11 | 33 | 17.2 | .8 | 3.7 |
| QUARTZ MTN | SNOTEL | 5720 | 5/01/11 | 0 | .0 | .0 | .1 |
| R.R. OVERPASS | SNOTEL | 2680 | 5/01/11 | 0 | .0 | .0 | .0 |
| RED BUTTE #1 | | 4560 | 4/27/11 | 54 | 22.8 | 2.5 | 6.7 |
| RED BUTTE #2 | | 4000 | 4/27/11 | 6 | 2.2 | .0 | 2.1 |
| RED HILL | SNOTEL | 4410 | 5/01/11 | 125 | 68.8 | 42.2 | 42.5 |
| ROARING RIVER | SNOTEL | 4950 | 5/01/11 | 85 | 40.8 | 20.1 | 24.0 |
| ROCK SPRINGS | SNOTEL | 5290 | 5/01/11 | 0 | .0 | .0 | .1 |
| SADDLE MTN | SNOTEL | 3110 | 5/01/11 | 10 | 4.2 | .0 | -- |
| SALT CK FALLS | SNOTEL | 4220 | 5/01/11 | 74 | 36.2 | 8.3 | 10.5 |
| SANTIAM JCT. | SNOTEL | 3740 | 5/01/11 | 44 | 19.5 | .0 | 8.0 |
| SCHNEIDER MDW | SNOTEL | 5400 | 5/01/11 | 75 | 32.6 | 17.7 | 20.2 |
| SEINE CREEK | SNOTEL | 2060 | 5/01/11 | 0 | .0 | .0 | .0 |
| SEVENMILE MARSH SNTL | | 5700 | 5/01/11 | 95 | 43.7 | 24.8 | 22.6 |
| SILVER BURN | | 3720 | 4/28/11 | 32 | 13.5 | .0 | .9 |
| SILVER CREEK | SNOTEL | 5740 | 5/01/11 | 18 | 8.9 | .0 | 1.6 |
| SILVIES | SNOTEL | 6990 | 5/01/11 | 59 | 17.7 | 16.1 | 13.3 |
| SKI BOWL ROAD | | 6000 | 5/02/11 | 74 | 32.2 | 26.2 | 23.1 |
| SNOW MTN | SNOTEL | 6220 | 5/01/11 | 36 | 15.3 | 8.2 | 7.4 |
| SF BULL RUN | SNOTEL | 2690 | 5/01/11 | 17 | 7.5 | .1 | .1 |
| STARR RIDGE | SNOTEL | 5250 | 5/01/11 | 0 | .0 | .0 | .0 |
| STRAWBERRY | SNOTEL | 5770 | 5/01/11 | 0 | 1.0 | .0 | .8 |
| SUMMER RIM | SNOTEL | 7080 | 5/01/11 | 63 | 25.2 | 14.8 | 13.0 |
| SUMMIT LAKE | SNOTEL | 5610 | 5/01/11 | 133 | 51.9 | 40.3 | 39.4 |
| SUN PASS | SNOTEL | 5400 | 5/01/11 | 44 | 18.2 | 11.8 | -- |
| SWAN LAKE MTN | SNOTEL | 6830 | 5/01/11 | 75 | 34.1 | 20.9 | -- |
| TANGENT | | 5400 | 4/27/11 | 40 | 17.2 | 7.8 | 11.3 |
| TAYLOR BUTTE | SNOTEL | 5030 | 5/01/11 | 1 | .2 | .0 | .1 |
| TAYLOR GREEN | SNOTEL | 5740 | 5/01/11 | 64 | 27.8 | 12.7 | 10.3 |
| THREE CK MEAD | SNOTEL | 5690 | 5/01/11 | 66 | 28.8 | 16.5 | 15.3 |
| TIPTON | SNOTEL | 5150 | 5/01/11 | 27 | 13.9 | 3.0 | 4.8 |
| TOKETEE AIRSTRIp SN | | 3240 | 5/01/11 | 0 | .0 | .0 | .1 |
| TOLLGATE | | 5070 | 5/03/11 | 92 | 44.4 | 18.6 | 19.3 |
| WOLF CREEK | SNOTEL | 5630 | 5/01/11 | 54 | 20.7 | 6.0 | 9.8 |
| California | | | | | | | |
| ADIN MOUNTAIN | | 6350 | 4/28/11 | 39 | 16.1 | 11.0 | 6.5 |
| ADIN MTN | SNOTEL | 6190 | 5/01/11 | 30 | 11.1 | 9.7 | 6.8 |
| CEDAR PASS | SNOTEL | 7030 | 5/01/11 | 67 | 27.8 | 15.6 | 14.3 |
| CROWDER FLAT | SNOTEL | 5170 | 5/01/11 | 0 | .0 | .0 | .0 |
| DISMAL SWAMP | SNOTEL | 7360 | 5/01/11 | 114 | 49.5 | 26.7 | 24.9 |
| Idaho | | | | | | | |
| MUD FLAT | SNOTEL | 5730 | 5/01/11 | 0 | .0 | .0 | .0 |
| SOUTH MTN | SNOTEL | 6500 | 5/01/11 | 56 | 22.8 | 8.3 | 9.4 |
| Nevada | | | | | | | |
| BEAR CREEK | SNOTEL | 7800 | 5/01/11 | 85 | 32.8 | 14.4 | 19.0 |
| BIG BEND | SNOTEL | 6700 | 5/01/11 | 29 | 11.1 | 2.1 | 2.3 |
| BUCKSKIN,L | SNOTEL | 6700 | 5/01/11 | 43 | 18.1 | 1.0 | 3.7 |
| DISASTER PEAK | SNOTEL | 6500 | 5/01/11 | 0 | .0 | .0 | 2.9 |
| FAWN CREEK | SNOTEL | 7050 | 5/01/11 | 63 | 25.2 | 10.5 | 14.5 |
| GRANITE PEAK | SNOTEL | 7800 | 5/01/11 | 101 | 37.8 | 13.5 | 24.2 |
| JACK CREEK, U | SNOTEL | 7280 | 5/01/11 | 66 | 23.3 | 13.4 | 17.0 |
| LAMANCE CREEK | SNOTEL | 6000 | 5/01/11 | 13 | 5.3 | .0 | 3.9 |
| LAUREL DRAW | SNOTEL | 6700 | 5/01/11 | 32 | 10.9 | 3.0 | 1.6 |
| SEVENTYSIX CK | SNOTEL | 7100 | 5/01/11 | 26 | 8.7 | 4.0 | 3.9 |
| TAYLOR CANYON | SNOTEL | 6200 | 5/01/11 | 0 | .0 | .3 | .3 |

(d) denotes discontinued site.

Basin Outlook Reports: How Forecasts Are Made

Federal – State – Private Cooperative Snow Surveys

For more water supply and resource management information, contact:

**USDA, Natural Resources Conservation Service
Snow Survey Office
1201 NE Lloyd Suite 900
Portland, OR 97232**

Phone: (503) 414-3270

Web site: <http://www.or.nrcs.usda.gov/snow/index.html>

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

Interpreting Water Supply Forecasts

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

90 Percent Chance of Exceedance Forecast. There is a 90 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 10 percent chance that the actual streamflow volume will be less than this forecast value.

70 Percent Chance of Exceedance Forecast. There is a 70 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 30 percent chance that the actual streamflow volume will be less than this forecast value.

50 Percent Chance of Exceedance Forecast. There is a 50 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 50 percent chance that the actual streamflow volume will be less than this forecast value. Generally, this forecast is the middle of the range of possible streamflow volumes that can be produced given current conditions.

30 Percent Chance of Exceedance Forecast. There is a 30 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 70 percent chance that the actual streamflow volume will be less than this forecast value.

10 Percent Chance of Exceedance Forecast. There is a 10 percent chance that the actual streamflow volume will exceed this forecast value, and there is a 90 percent chance that the actual streamflow volume will be less than this forecast value.

*Note: There is still a 20 percent chance that actual streamflow volumes will fall either below the 90 percent exceedance forecast or above the 10 percent exceedance forecast.

These forecasts represent the uncertainty inherent in making streamflow predictions. This uncertainty may include sources such as: unknown future weather conditions, uncertainties associated with the various prediction methodologies, and the spatial coverage of the data network in a given basin.

30-Year Average. The 30-year average streamflow for each forecast period is provided for comparison. The average is based on data from 1971-2000. The % AVG. column compares the 50% chance of exceedance forecast to the 30-year average streamflow; values above 100% denote when the 50% chance of exceedance forecast would be greater than the 30-year average streamflow.

AF - Acre-feet, forecasted volume of water are typically in thousands of acre-feet.

These forecasts are given to users to help make risk-based decisions. Users can select the forecast corresponding to the level of risk they are willing to accept in order to minimize the negative impacts of having more or less water than planned for.

To Decrease the Chance of Having Less Water than Planned for: A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive less than this amount). To reduce the risk of having less water than planned for, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded such as the 90 or 70 percent exceedance forecasts.

To Decrease the Chance of Having More Water than Planned for: A user might determine that making decisions based on a 50 percent chance of exceedance forecast is too much risk to take (there is still a 50% chance that the user will receive more than this amount). To reduce the risk of having more water than planned for, users can base their operational decisions on one of the forecasts with a lesser chance of being exceeded such as the 30 or 10 percent exceedance forecasts.

Using the forecasts - an Example

Using the 50 Percent Exceedance Forecast. Using the example forecasts shown below, there is a 50% chance that actual streamflow volume at the Boise River near Twin Springs will be less than 685 KAF between April 1 and July 31. There is also a 50% chance that actual streamflow volume will be greater than 685 KAF.

Using the 90 and 70 Percent Exceedance Forecasts. If an unexpected shortage of water could cause problems (such as irrigated agriculture), users might want to plan on receiving 610 KAF (from the 70 percent exceedance forecast). There is a 30% chance of receiving *less* than 610 KAF.

Alternatively, if users determine the risk of using the 70 percent exceedance forecast is too great, then they might plan on receiving 443 KAF (from the **90**

percent exceedance forecast). There is 10% chance of receiving less than 443 KAF.

Using the 30 or 10 Percent Exceedance Forecasts. If an unexpected excess of water could cause problems (such as operating a flood control reservoir), users might plan on receiving 760 KAF (from the 30 percent exceedance forecast). There is a 30% chance of receiving *more* than 760 KAF.

Alternatively, if users determine the risk of using the 30 percent exceedance forecast is too great, then they might plan on receiving 927 KAF (from the 10 percent exceedance forecast). There is a 10% chance of receiving more than 927 KAF.

Users could also choose a volume in between any of these values to reflect their desired risk level.

OWYHEE AND MALHEUR BASINS Streamflow Forecasts - February 1, 2006

| | | <<===== Drier ===== Future Conditions ===== Wetter =====>> | | | | | | | |
|------------------------|-----------------|--|-----------------|--|-----|-----------------|-----------------|------------------------|--|
| Forecast Point | Forecast Period | Chance Of Exceeding * | | | | | | | |
| | | 90% (1000AF) | 70% (1000AF) | 50% (Most Probable) (1000AF) (% AVG.) | | 30% (1000AF) | 10% (1000AF) | 30-Yr Avg. (1000AF) | |
| MALHEUR near Drewsey | FEB-JUL | 148 | 184 | 210 | 165 | 238 | 282 | 127 | |
| | APR-SEP | 87 | 110 | 128 | 168 | 147 | 177 | 76 | |
| NF MALHEUR at Beulah | FEB-JUL | 108 | 127 | 141 | 157 | 156 | 178 | 90 | |
| | APR-SEP | 341 | 473 | 575 | 134 | 687 | 869 | 430 | |
| OWYHEE RESV INFLOW (2) | FEB-JUL | 602 | 792 | 935 | 134 | 1090 | 1340 | 700 | |
| | APR-SEP | 341 | 473 | 575 | 134 | 687 | 869 | 430 | |

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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Official Business



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<http://www.or.nrcs.usda.gov/snow/watersupply/>

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